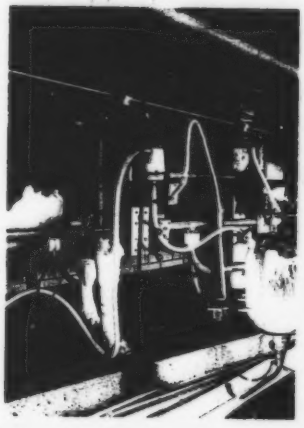
The Manitoba Hydro-Electric Board

38th Annual Report
For the Year Ended
March 31, 1989



manitoba hydro

COVER:

The cover of this year's Annual Report depicts a variety of ways in which electricity is used by our customers. Electricity is such a fundamental part of our everyday lives that we simply expect the lights to turn on at the flick of a switch, with little thought as to how the power was produced or delivered to virtually every household in Manitoba. Being taken for granted is a measure of success for Manitoba Hydro because it means we are doing our job, providing a reliable supply of electricity. Manitoba Hydro strives to meet the expectations of our customers to deliver electricity when they need it now and in the future.

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Highlights

Financial

Gross Revenues:
$609.5 million

Total Expenses:
$635.9 million

Net Expense:
$26.4 million

Extraprovincial Revenues:
$31.1 million

Energy Sales within Manitoba:
$570.9 million

Finance Expense:
$241.7 million

Reserves:
$92.4 million

Additions to Fixed Assets:
$380.1 million

Operating

(Integrated System)

Total Generation (including isolated stations): 16.1 billion kilowatt hours

Manitoba Firm Energy Supplied:
17.1 billion kilowatt hours

Manitoba Peak Load:
3 407 000 kilowatts

(Manitoba Hydro)

Total Hydraulic Generation:
14.5 billion kilowatt hours

Power Sales to Manitoba Customers:
14.5 billion kilowatt hours

Extraprovincial Sales:
1.2 billion kilowatt hours

Number of Customers:
367 658

Peak Number of Employees:
4 307

Other

drought continued into its second year, reducing hydraulic generation by 36.7 per cent from two years ago

gross revenues exceeded $600 million for the first time

$39.9 million worth of electricity imported while exports of power brought in $31.1 million

progress continued on the construction of the Limestone Generating Station—the projected cost was reduced to $1.57 billion—project is on schedule to begin producing power in 1990

the peak load reached 3 407 000 kilowatts, a new record

GROSS REVENUES $609.5 MILLION

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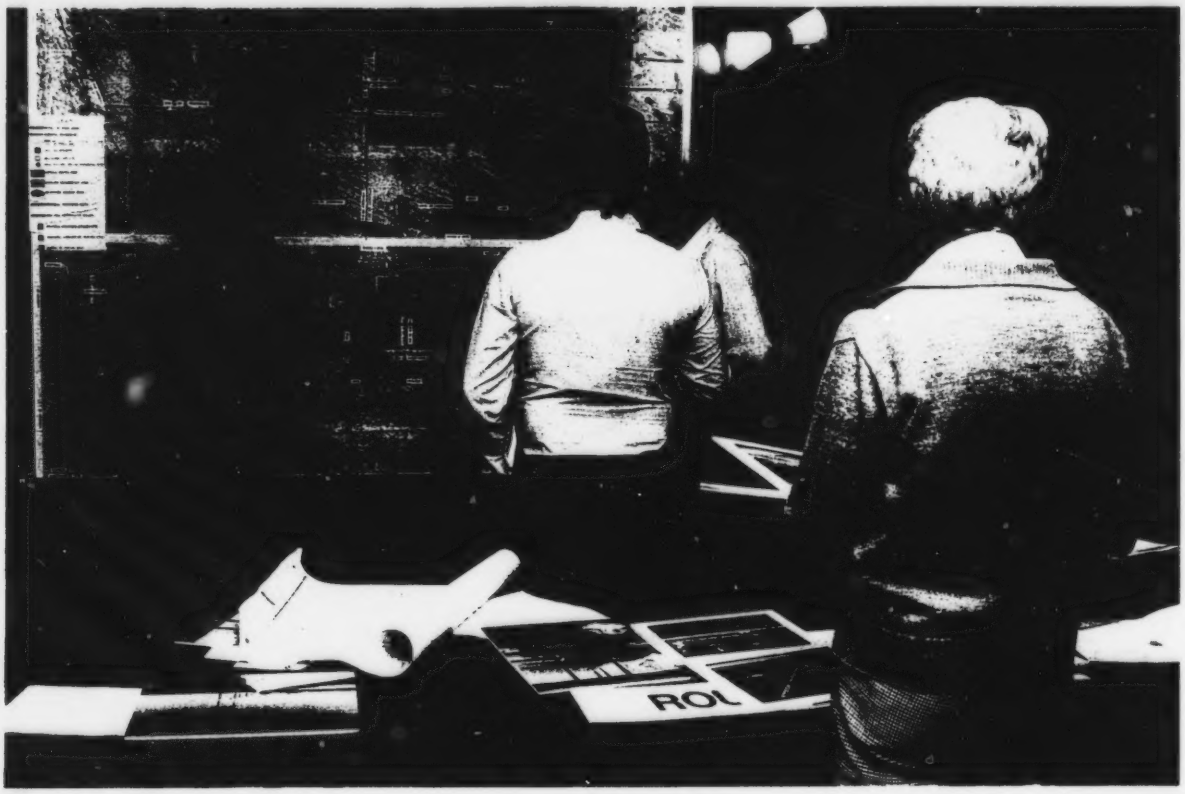

At a public meeting held in Arborg, Manitoba Hydro employees Brian Manning, left, and Don Miller, second from the right, explain the possible routes for a new transmission line that will be passing through the area. Such public forums allow local concerns to be taken into account in the selection of the most appropriate transmission route.

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Power Sources and High Voltage Transmission (map) ..... inside back cover

Letter of Transmittal

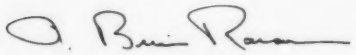
July 10, 1989

The Honourable Harold Neufeld
Minister responsible for the Administration
of the Manitoba Hydro Act
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Dear Minister:

I have the honour of presenting the 38th Annual Report of The Manitoba Hydro-Electric Board together with financial statements for the fiscal year ended March 31, 1989.

Respectfully submitted,



A. Brian Ransom
Chairman
Board of Directors
The Manitoba Hydro-Electric Board

Introduction

At Manitoba Hydro, customer service means many things, including maintaining a province-wide transmission and distribution network 24 hours a day, every day of the year.

Manitoba Hydro is a Crown Corporation, owned by the provincial government, that generates and distributes electricity to meet the needs of nearly 368 000 customers throughout the province.

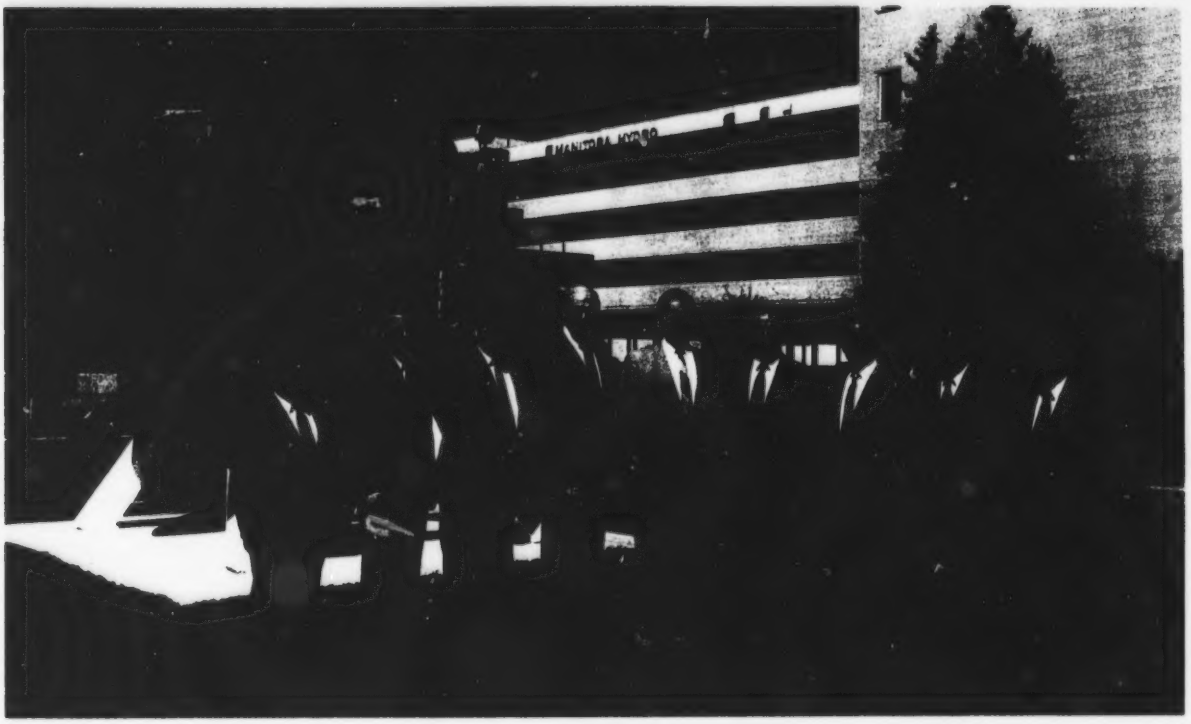
The mandate of the Corporation as established by the Manitoba Hydro Act is "to provide for the continuance of a supply of power adequate for the needs of the province, and to promote economy and efficiency in the generation, distribution, supply and use of power."

Manitoba Hydro distributes electricity everywhere in the province except for the central portion of The City of Winnipeg.

The business of the Corporation is directed by a Board of 11 Members appointed by the provincial Cabinet. Through its Chairman, the Board reports on the activities of Manitoba Hydro to the Minister responsible for the administration of the Manitoba Hydro Act who, in turn, reports to the Legislative Assembly. In this manner, Manitoba Hydro is responsible to the people of Manitoba through their elected representatives.

While some other areas of Canada have developed electric power systems based on coal-burning thermal plants or nuclear generating stations, Manitobans have long considered themselves fortunate to have a significant number of hydroelectric generating sites in the province. Hydroelectric generating stations provide clean, low-cost electricity. Through the orderly development of suitable hydroelectric sites in the northern part of the province, Manitobans are assured of reasonably-priced electricity well into the future.

The Manitoba Hydro-Electric Board



The Manitoba Hydro-Electric Board, from left to right, Kenneth S. Patino, William E. Cheater, Charles E. Curtis, Harold J. Perkins, A Brian Ranson, Chairman, John S. McCallum, Vice-Chairman, Edmund Kuffel, Rod J. Beaudry, Clyde R. McBain. Absent when photo was taken were Darlene Hildebrand and Harry Enns, M.L.A., identified below.

A. Brian Ransom
Chairman

Harry Enns
M.L.A. Lakeside

William E. Cheater
Regional Services Department
Manitoba Hydro

Darlene Hildebrand
Investment Advisor
RBC Dominion Securities

Rod J. Beaudry
Production Division
Manitoba Hydro

Harold J. Perkins
Office of Extension
Brandon University

John S. McCallum
Vice-Chairman
Faculty of Management
University of Manitoba

Charles E. Curtis
Deputy Minister of Finance
Province of Manitoba

Edmund Kuffel
Dean of Engineering
University of Manitoba

Kenneth S. Patino
General Engineering Division
Winnipeg Hydro

Clyde R. McBain
President and General Manager
Ancast Industries Ltd.

D. Hildebrand

H. Enns, M.L.A.

Chairman's Message

From both an operational and financial point of view, the 1988-89 year at Manitoba Hydro was dominated by the impact of the prolonged drought, as the Corporation attempted to maximize production from its reservoirs and to reduce its anticipated losses.

In an unusual reversal of normal circumstances this year, the drought caused Manitoba Hydro to import more energy than it exported. Over the long-term, however, the Corporation will remain a net exporter of electricity. Revenue from the sale of surplus electricity helps to maintain low rates for Manitobans and Manitoba Hydro will continue to pursue the extraprovincial sale of electricity, providing that, in each case, such a sale is in the best interest of Manitobans and the revenue arising from these transactions exceeds the costs of making the sale.

During the year under review, Manitoba Hydro reinforced its commitment to its customers, seeking to provide additional avenues to address customer needs and concerns. While Manitoba Hydro has a well-deserved reputation for providing good customer service, as a monopoly utility the Corporation must remain extraordinarily sensitive to customer service, since no alternative provider exists to offer basic electrical service.

Because the people of the Province are the ultimate owners of Manitoba Hydro, I believe it is important that they be provided with sufficient information to allow them to make informed judgements about the operations of the Corporation.

Several important events occurred during the past year which resulted in more information being made available to the public and consequently the Corporation was more accountable.

New legislation was passed requiring Manitoba Hydro to submit proposed rate increases to the Public Utilities Board of Manitoba (PUB) for approval. The public hearings associated with the PUB review process allow Manitobans an opportunity to examine in detail the rate-setting process at Manitoba Hydro.

At the Public Utilities Board hearing in Winnipeg in March, 1989, Manitoba Hydro proposed to the PUB that it review the Corporation's long-term plans and the alternatives for the next source of generation for Manitoba, providing a forum for public comment before important decisions are made on this matter.

During the past year, the Board of Manitoba Hydro instituted the practice of holding some of its regular meetings outside of Winnipeg and combining these meetings with opportunities for Board members and senior management to meet customers and local government officials to explain our activities and answer questions. One public meeting was also held outside of Winnipeg in accordance with requirements of The Crown Corporation Public Review and Accountability and Consequential Amendments Act.

The Freedom of Information Act also came into effect this past year. This Act provides specific means by which the public may access certain information that is not normally made available on a general basis.

Manitoba Hydro is increasingly concerned about the impact of its activities on the environment. Conversely, the utility is also becoming more aware of how the environment affects the Corporation, especially in regard to its planning activities. Two new developments in this area during the year were: the Corporation's initiation of studies of the potential impact of the "greenhouse effect" on Manitoba Hydro; and its involvement in the Partnership for Sustainable Development, an organization of public and private interests that are concerned about the impact of climatic changes on the Great Plains area of western Canada.

The Corporation has given increased priority to the settlement of its commitments under the Northern Flood Agreement. To this end, Manitoba Hydro has appointed a senior negotiator to enter into discussions with senior representatives from the other signatories to the Agreement, with the aim of accelerating negotiations to reach a comprehensive agreement by the end of 1989.

On behalf of the Board of Manitoba Hydro, I would like to thank the employees of the Corporation for their efforts during the year and for their contributions to the Board's decision-making process.

A. Brian Ransom
Chairman

President's Message

"To provide for the continuance of a supply of power adequate for the needs of the Province and to promote economy and efficiency in the generation, distribution, supply and use of power." The mandate of Manitoba Hydro reflects the central importance of customer service to the Corporation. At a fundamental level, all Corporate activities — ranging from complex analysis of electrical system stability to the simple act of handling each customer inquiry in a pleasant and courteous fashion — are directed at maintaining and improving the quality of service to our customers.

In the short term, providing for a continuance of supply requires both careful attention to regular maintenance and being prepared for inevitable, but unpredictable interruptions. The average availability of electrical service achieved by Manitoba Hydro in 1988 is significantly better than the national average. This is indicative of the excellent job that is being done by staff in providing the increasing quantity of electrical energy which our customers are using.

For the future, continued supply can be assured only by careful planning for system replacements and additions. Over the last year, management has increased its planning efforts as the time for a major decision with respect to the addition of generating capacity approaches. The information necessary to select the best option must be available in the next several months to enable a decision resulting in a continued supply of electricity to Manitobans at the lowest cost.

In common with its farm customers, Manitoba Hydro is very sensitive to dry conditions. The generating system is designed to ensure adequate energy even under low water flow conditions. The drought conditions experienced in 1987 continued through 1988, but the Corporation was able to maintain supply through the extended use of its thermal plants and the purchase of power under agreements with neighbouring utilities. Our success over the last year shows that the utility is well prepared operationally for such extreme conditions, although the drought has contributed to a weakened financial position.

During the past year, Corporation management has concentrated its efforts on reducing costs and deferring expenditures wherever it could be done without a significant, long term economic or operational penalty to the Corporation and its customers. Although this effort was effective, and certain favourable circumstances helped mitigate the financial impact of the drought, the Corporation nevertheless experienced its second consecutive year of net expense. This loss of $26.4 million reduced the already low level of reserves of the Corporation to $92.4 million.

As a result of two consecutive years' losses, reserves are now significantly below the level which is necessary to protect the Corporation against a number of financial risks, including severe drought. It is therefore important to build up reserves to an appropriate level within a reasonable period of time. In the longer term, our forecasts indicate that the Corporation can maintain financial stability with rate increases below the assumed rate of inflation. This will reduce the real price of electricity.

With the passage of new legislation in December of 1988, the Corporation is now required to submit all requests for rate increases to the Public Utilities Board for public review and Board approval prior to implementation. The Corporation requested an increase averaging 6 per cent across the customer base to take effect on April 1, 1989. After public hearings held in mid-March, the Public Utilities Board ordered that the increase be limited to an average of 5 per cent.

A major determinant of the Corporation's cost of providing power in the future will be the cost of new generating stations and transmission facilities. Excellent progress on the Limestone Generating Station has continued over the last year. I am pleased to note that the cost estimate for the project has dropped during the year by a further $100 million to $1.57 billion. The success being enjoyed in the construction of this project will contribute to the utility's efforts to control the growth of rates in coming years.

In conclusion, I would like to thank all the Corporation's staff and management for their efforts, as individuals and as a team, during the past year. Without their dedication, our customers would not enjoy the high quality of service which is being provided today and planned for the future.

G.H. Beatty
President and Chief Executive Officer

Customer Service

Excellent customer service is a goal of all employees within Manitoba Hydro...

A severe windstorm that struck eastern Manitoba in June 1988 caused extensive damage to Manitoba Hydro facilities, particularly in the vacation areas around Lake Winnipeg. Hydro crews worked long hours to restore power to customers and many more hours clearing the debris from around the affected lines.

Approximately half of Manitoba Hydro's staff work outside of Winnipeg serving the needs of rural and small town Manitoba.

The foremost element of the Corporation's Mission Statement is a commitment that Manitoba Hydro will "Serve its customers in a fair and consistent manner." The Corporation's commitment to excellent customer relations goes beyond its basic responsibility as a reliable and economical supplier of electricity.

Manitoba Hydro employees take pride in providing high quality service to all of their customers. It is part of the tradition of the industry that customers should not be without such a vital commodity as electricity for any prolonged period. When the power is off, employees act as quickly as possible to restore service. For many production and operating employees, this means being on call day and night. It means having to report for work in the worst weather conditions because that's when power outages usually occur.

While "keeping the lights on" is certainly the most important aspect of service to customers, being responsive to billing enquiries, requests for service extensions and many other customer dealings are very important elements of the Corporation's total obligation to its customers.

Excellent customer service is a goal of all employees within Manitoba Hydro even for those employees who never have contact with customers since all of the Corporation's various activities are aimed at delivering high quality service to Manitobans. All employees contribute to good customer service by doing their jobs well, thereby providing customer service staff with all the necessary support to ensure the delivery of low-cost, reliable electricity.

New customers requesting connection to the electrical supply are typical of the customer requirements that Manitoba Hydro employees handle on a daily basis.

During the 1988-89 fiscal year, the number of Manitoba Hydro customers grew by 5 214, up 1.4 per cent to a total of 367 658. Residential customers increased by 1.6 per cent to total 321 699. General Service and miscellaneous customers totalled 45 959 at March 31, 1989, an increase of 0.3 per cent over last year.

Of the 5 561 new dwellings built in 1988-89 throughout Manitoba Hydro's service area, more than one third were all-electric.

Customer Service

Manitoba Hydro customer service staff, like Lorraine Edwards, handle a variety of customer requests, including those from the 5 214 new customers who had service connected during the year.

Computer aided drafting (CAD) allows drawings of stations and distribution networks to be created, altered and updated quickly, permitting faster availability of work plans for customer service staff.

There are now more than 97 000 electrically heated single family residences and apartment units in the Manitoba Hydro service area. About 32 per cent of dwellings served by Manitoba Hydro are electrically heated.

Manitoba Hydro continued its programs to encourage the efficient use of electricity during the year.

Manitoba Hydro staff work with industries in the province to provide them with the latest information on emerging electrotechnologies. These new processes and equipment allow industries to improve productivity, efficiency and product quality while enhancing working conditions and job safety. Some examples of these technologies are new direct drive electric motors and industrial microwave processes.

In November 1988 Manitoba Hydro and the Canadian Electrical Association presented their Regional Industrial Energy Efficiency Award to Inco Ltd. in Thompson. Manitoba Hydro provided advice and assistance to aid Inco in achieving this award, which recognizes the achievements of Inco in controlling electrical demand and increasing the electrical load factor to over 90 per cent, resulting in very cost effective electricity use in the company's industrial complex.

The CHEC Loan Program, administered by Manitoba Hydro for the Government of Manitoba, is designed to encourage customers to insulate their homes and buildings and to install associated energy-saving products. During 1988-89, 2 980 CHEC loans were processed for a value of $3.2 million. A survey of customers who have taken advantage of CHEC loans showed energy savings in the range of 11 to 29 per cent. In the 12 years that the program has been in effect, there have been 42 642 loans extended at a value of $34 million.

Through a related program called Home CHEC-UP, Manitoba Hydro makes available specially trained energy advisors who inspect residences to assess their energy efficiency and to suggest improvements that will save customers money. During 1988-89, Manitoba Hydro received 4 322 applications for such energy audits. Home CHEC-UP is also funded by the Provincial Government.

On December 7, 1988 Manitoba Hydro held its first public meeting under the Crown Corporations Public Review and Accountability and Consequential Amendments Act. The meeting, held in Beausejour, allowed the public to comment on the issues facing the Corporation and on its policies and practices. Future meetings are planned for other areas of the province.

Also in December, the Board of the Corporation met in Brandon, one of its periodic meetings held in different areas of the province to provide Board members with a regional perspective.

In March 1989, the Public Utilities Board of Manitoba held a series of public hearings in Winnipeg, Thompson, Morden and Dauphin in connection with Manitoba Hydro's application for new rates.

Every day Manitoba Hydro staff, like Assistant District Operator Brian Kraynyk, perform the variety of tasks necessary to keep the power on in homes and businesses around the province.

In addition to customer service offices, Manitoba Hydro production staff are also located at generating and converter stations in various parts of the province.

More than 49 per cent of Manitoba Hydro's staff work outside of Winnipeg in some 88 locations.

Western Region

The 394 employees in Western Region ensure that the electricity needs of 83 000 customers in south-western Manitoba and the Parklands area are met. The Region has its headquarters in Brandon and staff are located in 26 offices throughout the area.

Western Region is involved in an ongoing program to upgrade rural distribution facilities to allow for the increased electrical loads on modern farms. Two major conversions took place in the Rivers and Forrest areas in 1988, improving service to about 1 500 customers, while smaller conversions were undertaken around Rapid City and Woodnorth.

Another major project for this Region is the Rural Underground Distribution (RUD) program, under which overhead distribution lines are being replaced with buried facilities in areas that are prone to ice storms. During 1988, the fourth year of the five year RUD program, a further 12 kilometres of cable were placed underground, bringing the total amount of cable buried to date to 123 kilometres.

During the 1988-89 fiscal year, Western Region incurred some $14.1 million in capital expenditures to improve service to customers.

Clerk Bev Gundarson reviews a bill with a customer in the Steinbach office.

Service Area

Manitoba Hydro is charged with a substantial responsibility in delivering electricity to virtually anyone who requires it in almost every part of the province, 24 hours a day, 365 days each year.

To serve Manitoba Hydro's customers effectively over an area of 650 000 square kilometres, the Corporation's service area is divided into three geographic regions. In serving its customers, each regional organization is responsible for planning, designing, constructing, operating and maintaining the electrical distribution system in its area. Regional customer service staff have a major responsibility for dealing with customers and they are the day-to-day contacts regarding service, billing and most other matters.

Customer Service

Western Region Business Manager Stan Mazur, left, discusses the electrical requirements of Canadian Occidental Petroleum Ltd. with Plant Superintendent Jim Schultz at the company's Manitoba headquarters outside of Brandon.

Central Region

Manitoba Hydro's Central Region takes in the south-central area of the province and includes the areas of Winnipeg not served by Winnipeg Hydro. From the Region's 15 offices, a staff of 578 serve approximately 191 000 customers, the largest number of any Region.

A significant event in Central Region during the year was the completion of a major new transformer station at Stanley, near Morden, and the inauguration in October of the section of a 230 000 volt line from Letellier to the new station. The remaining portion of the line, from the Stanley station to St. Leon, is scheduled for completion early in the 1989-90 fiscal year. The new 126 kilometre line will reinforce the system presently serving Letellier, St. Leon and Morden and will improve reliability during ice storms and other emergency conditions.

Central Region also has sections of line that are prone to damage in ice storms and has been converting some of its overhead distribution to underground. During 1988-89, 80 kilometres of underground line was installed in the Morden and Carman areas, bringing the total buried to date in the Region to 262 kilometres.

Capital expenditures in the Region in 1988-89 totalled $16.2 million.

Eastern Region

Manitoba Hydro's Eastern Region is responsible for service to more than 92 000 customers spread out over 560 000 square kilometres of territory, including northern Manitoba. In addition to having direct responsibility for service to its customers, Eastern Region staff also look after a large portion of the Corporation's major transmission lines which traverse the Region. They also maintain and operate Manitoba Hydro's 13 diesel generating sites, providing electricity to isolated communities in northern Manitoba.

There are 491 employees working in 31 locations in the Region, which has its headquarters in Selkirk.

During the year, new transformer stations were completed at Cranberry Portage and at Sherridon to accommodate increasing demand for electricity by the mining industry.

In total, Eastern Region capital expenditures during the year amounted to $18.1 million.

In June 1988 a major storm with winds gusting up to 146 kilometres per hour caused significant damage to a number of communities in eastern Manitoba, including the cottage areas around Lake Winnipeg. The high winds toppled trees on to long stretches of distribution lines and Manitoba Hydro crews worked unceasingly over a two day period to restore power to those areas affected. It took about two weeks for Manitoba Hydro crews to clean up the areas affected.

Limestone

Perched high in the air, a worker moves among the roof support members in the powerhouse section at Limestone. By the fall of 1988, the roof and walls had been completed to include the fifth unit of the ten-unit powerhouse, allowing work to continue in this area over the winter.

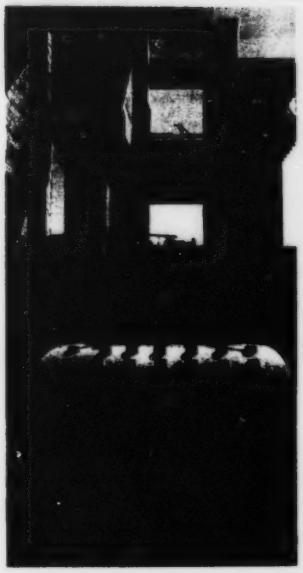
Renewed construction of the Limestone Generating Station entered its fourth year in 1988. The cost estimate for the project was reduced to $1.57 billion, down from $1.67 billion estimated last year. The project has experienced a series of cost estimate reductions due to lower rates of interest and escalation and a competitive market for construction and supply contracts.

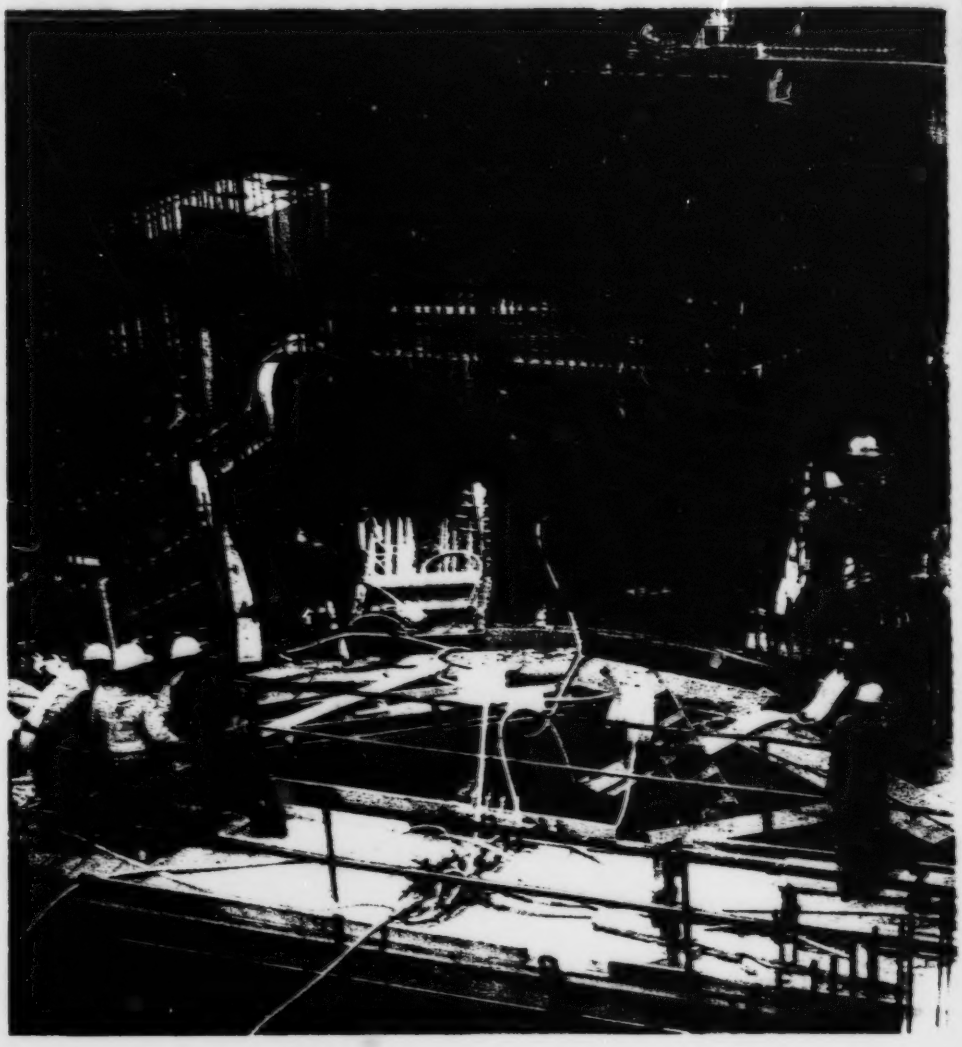
By the end of the outside construction season, concrete placement had progressed to the point where most of the major structures in the station had reached their finished height. Some 104 000 cubic metres of concrete were poured during the year, bringing the total placed to date to 597 000 cubic metres, or 92 per cent of the projected requirement of 650 000 cubic metres.

Aside from the installation of the internal components of the powerhouse — the turbines, generators and other equipment — the hoist towers over the spillway area and the south earthworks dam are the only major elements to be completed.

For the first time, significant work continued on the project during the winter...

Limestone





The baffle blocks located downstream of the spillway gates will dissipate the force of the water when use of the spillway is necessary.

Above, work on the installation of turbine components and the pouring of concrete to form the spiral scroll case continued at Limestone over the winter.

Far left, the completed section of the service bay, powerhouse and north dam in the fall of 1988. Limestone is located about 750 kilometres by air north of Winnipeg on the Nelson River.

Left, the intake section of the generating station, through which the entire Nelson River will be channelled in the next year as construction begins on the south dam that will span the river.

For the first time, significant work continued on the project during the winter, as the first five units of the powerhouse were enclosed, allowing the area to be heated. Work proceeded on the installation of concrete and embedded steel components that will allow for the installation of the turbines and generators. By the end of the fiscal year, installation work on the Unit 1 turbine and generator had begun. Work also progressed over the winter on the station's electrical and mechanical systems.

The intake section of the powerhouse is largely complete, with the 30 intake gates in place at the end of the year. The intake gates are 14 metres high by 5.5 metres wide and weigh almost 78 tonnes each. The gates will control the flow of water into each unit of the powerhouse.

Much of the work on the spillway section was also completed during 1988, with the spillway gates in place by the end of the year. The spillway will be tested in the summer of 1989 when the full flow of the Nelson River is channelled through its seven outlets to allow the construction of the south earthworks dam. The present cofferdam in front of the spillway will be breached, permitting water to flow through the spillway. Work can then proceed on a cofferdam across the open section of the river to allow construction of the permanent south dam that will close off the Nelson River and tie the generating station structure into the south bank.

Employment at the project this season peaked at 1 100 during the summer; about 300 people remained on site during the winter months, largely to continue with work inside the powerhouse area.

The Nelson-Burntwood Collective Agreement, which governs the labour relations aspects of the project, contains affirmative action measures which are aimed at ensuring significant participation of northerners in the project. During the year under review, the monthly participation rates for northerners ranged from 31 per cent to 58 per cent. Participation rates for northern natives ranged from 18 per cent to 33 per cent of the total workforce.

Electrical Production

The drought conditions that affected Manitoba Hydro's production of electricity in the 1987-88 fiscal year continued in 1988-89, with a dramatic impact. The amount of electricity generated by the 13 hydraulic generating stations in the integrated Manitoba system was 15.2 billion kilowatt hours, down 15.6 per cent from the 18.0 billion kilowatt hours produced last year, and down 36.7 per cent from the record hydraulic production of 24.0 billion kilowatt hours two years ago.

During 1988-89, the total amount of energy generated and purchased to meet the requirements of the integrated Manitoba system and for power sold outside the province was 18.4 billion kilowatt hours, a decrease of 8.0 per cent from the 20.0 billion kilowatt hours made available in 1987-88.

Hydraulic generation amounted to 82.7 per cent of total system requirements, compared to 90.1 per cent last year and 99.1 per cent in 1986-87. The generation from Manitoba Hydro's 11 hydraulic generating stations was 14.5 billion kilowatt hours, down 16.6 per cent from last year's total of 17.3 billion kilowatt hours. The 1986-87 total was 22.9 billion kilowatt hours.

All stations on the Nelson River generated less power than last year due to lower flows from Lake Winnipeg and the Churchill River Diversion. Generation was 61.6 per cent of system requirements compared to 72.1 per cent in 1987-88. Generation from the Winnipeg River plants increased from last year, contributing 15.9 per cent of requirements. Heavy rains over the entire Winnipeg River basin in August, September and November greatly improved the water supply into the major reservoirs of that basin, allowing plants on the Winnipeg River to generate at optimum flows throughout the winter.

Generation at Grand Rapids on the Saskatchewan River amounted to 4.9 per cent of system requirements, while the stations on the Laurie River contributed 0.3 per cent. Flows for the year on the Saskatchewan River at The Pas monitoring station were the lowest on record since 1912, due to the extreme drought conditions experienced in Saskatchewan and Alberta.

Thermal generation totalled 864.2 million kilowatt hours in 1988-89, which was 4.7 per cent of total system requirements, compared to 823.5 million kilowatt hours which was 4.1 per cent a year earlier and 99.7 million kilowatt hours or 0.4 per cent two years ago. Of the 1988-89 thermal production, the Brandon Generating Station produced 74.1 per cent, while Selkirk generated 25.9 per cent.

Imports of electricity in 1988-89 made up 12.6 per cent of total system requirements compared to 5.8 per cent last year and less than 0.5 per cent in 1986-87.

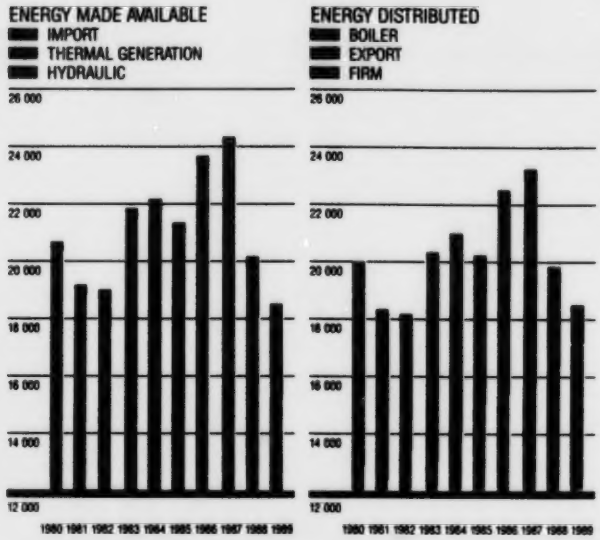
Imports of electricity increased significantly during the year to help meet the shortfall from the hydraulic generating stations. Total energy purchased during 1988-89 was 2.3 billion kilowatt hours, an increase of 102 per cent from the 1.2 billion kilowatt hours purchased last year. Of the energy purchased in 1988-89, 97.2 per cent was from the U.S.; the remainder was from Saskatchewan. Approximately 46 per cent of the energy purchased was for Manitoba consumption while the rest was resold. The cost of purchases was $39.9 million, compared to $15.7 million last year.

To meet the needs of Manitoba customers, 17.1 billion kilowatt hours of electricity were supplied during the year, an increase of 5.2 per cent from the 16.3 billion kilowatt hours supplied last year. A colder winter combined with a very hot and dry summer contributed significantly to increased heating and air conditioning demand compared to the previous year. The load growth also partly reflects sustained economic activity in the province during the year.

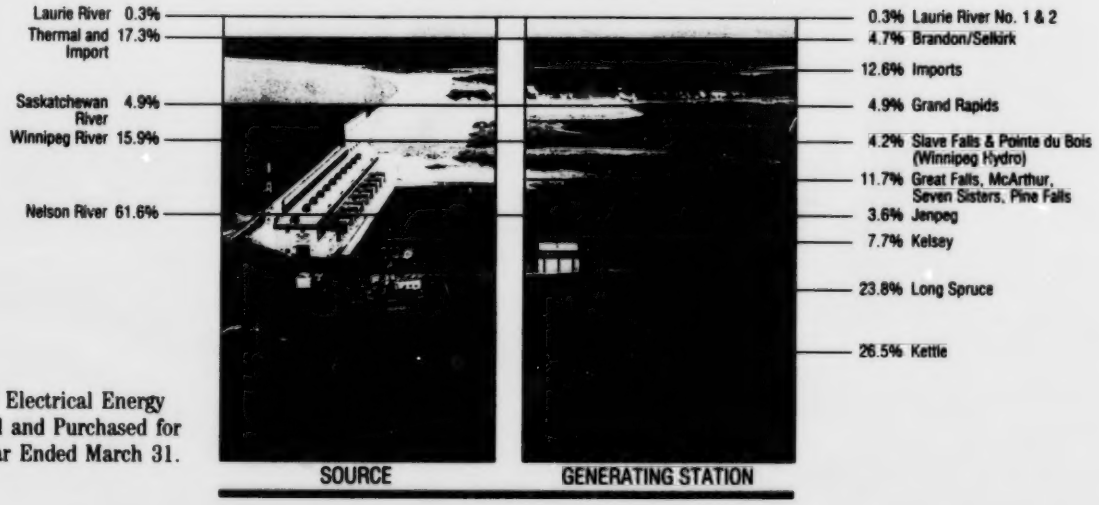
The peak demand for electricity on the Manitoba system was recorded on Friday February 3, 1989 at 8:07 a.m. when an all time high load of 3 407 000 kilowatts was reached. This was an increase of 1.5 per cent from last year's peak of 3 356 000 kilowatts.

Export sales of electricity in 1988-89 were 1.2 billion kilowatt hours, down 64.7 per cent from sales of 3.4 billion kilowatt hours in 1987-88. In the 1986-87 fiscal year, export sales were 7.8 billion kilowatt hours. Revenue from sales of exports totalled $31.1 million compared to $66.0 million last year and $113.5 million in 1986-87. Sales to the U.S. accounted for 57.1 per cent of exports, Ontario for 33.6 per cent and Saskatchewan for 9.3 per cent.

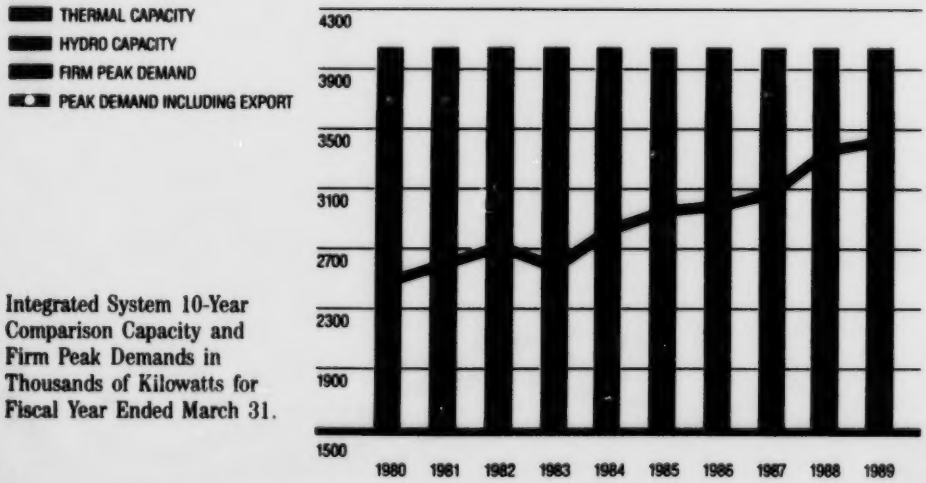
Manitoba Hydro continues to supply diesel-generated electricity to 13 communities not connected to the central supply grid. In 1988-89, the supply amounted to 19.3 million kilowatt hours, down 1.7 per cent from the previous year.



Integrated System 10-Year Comparison • Generation, Purchases and Sales in Millions of Kilowatt Hours for Fiscal Year Ended March 31.



Source of Electrical Energy Generated and Purchased for Fiscal Year Ended March 31.



Integrated System 10-Year Comparison Capacity and Firm Peak Demands in Thousands of Kilowatts for Fiscal Year Ended March 31.

System Development

Stations

Manitoba Hydro continues to upgrade and expand its transformer stations in order to meet the requirements for growth in customer demand. New stations were also completed during the year at Stanley, Cranberry Portage, Sarto, Rivers and Sherridon to accommodate increasing demand in those areas. In addition to these new stations, numerous existing stations were upgraded to increase capacity.

Transmission

A new 230-kilovolt transmission line between Letellier and the new Stanley Station was energized in October 1988. The remaining portion of the line to St. Leon was completed by year-end and is scheduled to be placed in service early in the 1989-90 year. The total line length is 126 kilometres.

Also in October 1988, a new 14 kilometre 115-kilovolt line was placed in service between the Brandon Generating Station and the Fortier Station to provide an alternative source of supply.

Under construction during the year were a 35 kilometre, 138-kilovolt line between Kettle Generating Station and Limestone, to serve the communities of Sundance and Bird, and a 14 kilometre, 115-kilovolt line between a new station at Star Lake and the Ontario border.

Telecommunications

In March 1989, a new fibre optics telecommunications system was placed in service around the perimeter of Winnipeg. The 145-kilometre system, which was buried under ground for most of the distance, replaces an outdated microwave system and is being used to send control signals and voice communications between the System Control Centre and the suburban control rooms. It will also serve as the backbone communications system for the operation, protection and control of major stations and transmission lines in the Winnipeg area.

Operating Efficiencies Achieved

The installation of a new Load Advisory Program in the System Control Centre computers provided Manitoba Hydro staff with a fast, convenient tool to select the best loading for the generating stations on the lower Nelson River and the two High Voltage Direct Current transmission lines. A characteristic of operating hydraulic generators and two parallel

HVDC lines is that energy is lost if loadings are even slightly higher or lower than the ideal loading, but these ideal loadings are always changing. While a similar computer program introduced in the early 1980s had improved production efficiencies, this new innovation resulted in a further improvement in 1988.

Electricity Exports

Maintenance and Rehabilitation

Manitoba Hydro has long term, ongoing programs for the maintenance of its generating and converter stations and its dams and control structures. This careful attention to our physical resources enables them to be operated in the most efficient manner and ensures that the expected useful life of these facilities is reached or extended.

Work continued during the year on a 10-year program to rehabilitate the electrical and mechanical systems at the Great Falls and Seven Sisters Generating Stations which were originally built in the 1920s. Equivalent rehabilitation work got underway during the year at the Pine Falls and McArthur Generating Stations.

During the year, dike repairs were necessary at Long Spruce and Kettle Generating Stations on the Nelson River and at McArthur Generating Station on the Winnipeg River.

The new station at Stanley, near Morden, was placed in service in October 1988 and is part of a 126-kilometre line that will improve reliability and reinforce the system in the Letellier, St. Leon and Morden area.

Thermal Generation

In years with normal water flows, the Brandon and Selkirk Thermal Generating Stations are operated largely to accommodate seasonal peak load periods. For the past two years of poor water conditions, both stations have been operating virtually full time.

The generating equipment at the Selkirk Generating Station and approximately half of the equipment at the Brandon Generating Station are expected to reach the end of their useful lives by about the year 2000. In order to evaluate the ongoing role of these stations, life assessment and extension studies have been commissioned by Manitoba Hydro for both stations. This $2.5 million program is intended to assess the physical condition of the thermal generating stations and their remaining economic life and to consider future fuel delivery and environmental concerns.

In the 1988-89 fiscal year, the Manitoba Energy Authority, in conjunction with Manitoba Hydro, was active in seeking out opportunities to export energy for the benefit of the power consumers of Manitoba.

The nature of Manitoba Hydro's hydraulic-based system is that there are times when generating stations produce more electricity than Manitobans require. When this energy is not required to be stored (as water in reservoirs) it can be sold to willing buyers in neighbouring jurisdictions.

There was little excess energy to export in the 1988-89 fiscal year because of the sustained drought that affected Manitoba Hydro's operations. In years of normal water flows, Manitobans enjoy the benefits of additional revenues flowing to Manitoba Hydro from these export sales revenues that help keep domestic rates at a reasonable level.

Most such sales are made on an interruptible week-to-week basis, in the energy "marketplace" operated among utilities. The price depends on the total supply available and the demand from other areas. Contracting for the sale of "firm" power produces a better price, but obliges the seller to ensure a greater reliability of supply to the purchaser.

During the year, discussions regarding firm energy sales continued with Ontario Hydro and focussed on a sale of up to 1 000 000 kilowatts, with smaller sales a possibility.

Discussions also continued with Northern States Power Company of Minneapolis and United Power Association of Elk River, Minnesota, which would involve construction of a new interconnection to allow for a diversity exchange. A diversity exchange would involve power being exported from Manitoba in the summer months and returned in the winter.

Negotiations are also ongoing with utilities in Wisconsin, Michigan, Minnesota, North and South Dakota for the sale of various amounts of power at various times.

Research and Development

To enhance the design, construction and operation of the utility's power system, and to keep abreast of current developments, Manitoba Hydro is actively involved in research and development. Most of this involvement is in conjunction with other organizations.

The largest single element in the Corporation's research and development program is in high voltage direct current technology, where Manitoba Hydro is one of four sponsors of the Manitoba HVDC Research Centre. A major project currently at the Centre involves the development of a computerized method of simulating electrical systems. This program has the potential of being able to accurately predict electrical system behaviour under various conditions.

The Corporation is also an active participant in the Canadian Electrical Association's (CEA) research and development program. As a partner with the other electric utilities in CEA, Manitoba Hydro is able to take advantage of large scale research activities. Currently the potential use of robotics for distribution and transmission line work and the potential health effects of electric and magnetic fields are significant projects being undertaken by CEA.

Manitoba Hydro and universities in the province cooperate in research in which graduate students work on projects of importance to the Corporation. For example, the application of artificial intelligence to the water resource management field is of significant interest to the Corporation and is the subject of a project currently underway. Artificial intelligence is a branch of computer science that attempts to simulate some of the characteristics of human intelligence.

Marketing the Skills of Employees

In conjunction with other Canadian utilities, engineering consultants and electrical industry suppliers, Manitoba Hydro makes available the technical and management skills of its employees to customers around the world, particularly to developing countries that want to expand and improve their electric power systems.

Consulting and training services are offered and sold on the basis of recovery of direct costs plus a margin for overhead and profit. Total revenue for the year exceeded direct costs by $233 000. An added benefit is the valuable experience gained by Manitoba Hydro employees involved in this work.

Although the Corporation has only been involved in this field for three years, it has undertaken a significant number of projects, with more than 100 employees contributing to assignments in over a dozen countries. In addition to sending employees overseas, Manitoba Hydro also hosts missions from other countries that want to undertake their training in Manitoba.

Employees

Two crews from Manitoba Hydro worked for three months in Jamaica to help restore the country's electrical distribution system, damaged by Hurricane Gilbert. The project, sponsored by the Canadian International Development Agency, made some new friends for Manitoba.

In 1988-89, Manitoba Hydro was involved in the following projects:

China: In a project funded by the Canadian International Development Agency (CIDA), Manitoba Hydro is one of five Canadian utilities led by B.C. Hydro that is delivering a technical assistance program to the People's Republic of China. Manitoba Hydro staff have been involved in training seminars both in China and Canada.

China: The Canada China Electric Power Consultants, a consortium comprised of Manitoba Hydro, Teshmont Consultants Inc. of Manitoba, Ontario Hydro and Monenco Consultants, continues to offer power utility consulting services in China. Manitoba Hydro's involvement has been in engineering services and training.

Egypt: Manitoba Hydro is a subcontractor to Ontario Hydro on a five-year, CIDA-funded training project in Egypt. Manitoba Hydro has supplied two of its staff for up to three years to train instructors for a transmission training school that the Egypt Electricity Authority is establishing in Cairo.

India: Manitoba Hydro has entered into direct contracts with two Indian companies to supply training services to their engineers in the operation and maintenance of high voltage direct current systems.

Jamaica: As a result of a contract with CIDA, Manitoba Hydro sent two fully-equipped service crews to Jamaica for approximately three months to assist in the reconstruction of the country's distribution system, damaged by Hurricane Gilbert.

Honduras: Manitoba Hydro is involved in Honduras as a subcontractor to Monenco Consultants and will provide an instructor to provide training in distribution operation and maintenance. This is a two-year CIDA-funded project.

Zimbabwe: At year-end, preparations were underway to send four Manitoba Hydro staff to Zimbabwe to provide on-the-job training to utility personnel of the Zimbabwe Electric Supply Authority. This project is also funded by CIDA.

The number of employees at Manitoba Hydro reached a peak of 4 307 in August 1988, compared to last year's peak of 4 222. A significant number of staff are long-service employees who continue to make a valued contribution to the Corporation. In 1988-89, nine employees completed 40 years of service while 25 reached the 35 year mark. A further 74 employees received 25-year recognition pins while 220 were presented with 15-year pins. A total of 69 employees retired during the year.

During the fiscal year, three-year collective agreements were negotiated between the Corporation and the Canadian Union of Public Employees (CUPE), Local 998, expiring December 19, 1990 and with the International Brotherhood of Electrical Workers (IBEW), Local 2034, expiring May 22, 1991. The current three-year collective agreement between the Corporation and the Association of Manitoba Hydro Staff and Supervisory Employees (AMHSSE) expires March 27, 1991.

Manitoba Hydro traditionally has had a strong commitment to providing training programs for employees and to encouraging further education.

During the year, a significant number of employees were involved in in-house training programs or participated in professional and technical seminars conducted outside the Corporation. Many took advantage of the tuition rebate program.

Affirmative Action

Manitoba Hydro maintains an affirmative action program designed to ensure that access to and development within the workforce is equitable. The Corporation continues to ensure that women, aboriginal people, individuals with physical disabilities and members of visible minority groups have fair access to employment and development opportunities.

Gerry Maynard, Assistant District Operator in St. Pierre, connects service at a new cottage while shown below are clerical staff in Customer Accounting, some of the employees affected by pay equity legislation.

There was improved representation of these groups throughout all occupational areas of the Corporation due to intensified recruitment of available, qualified candidates as well as an increased awareness of Manitoba Hydro's hiring policies and qualification requirements.

The Corporation's Career Days presentations provided many students throughout the province with important information concerning the Corporation's entry-level employment opportunities and qualification requirements, particularly those in northern communities.

Twelve Affirmative Action bursaries were again conferred to outstanding students entering engineering, computer science, and related technological fields.

Pay Equity

In October 1986, the Pay Equity Act came into effect for all Crown Corporations in Manitoba. The Act included the provision that management, employee groups and bargaining units reach agreement on the terms of implementing pay equity. This multi-party group within Manitoba Hydro included: the International Brotherhood of Electrical Workers, Local 2034; the Canadian Union of Public Employees, Local 998; the Association of Manitoba Hydro Staff and Supervisory Employees; and the Manitoba Hydro Professional Engineers Association.

On September 9, 1988 a memorandum of agreement was signed by all the parties. The agreement identified the salary adjustments to be made to the female dominated classifications so that the average rate of pay for female dominated classes of employees was equal to the average rate of pay of male dominated classes performing work of equal or comparable value. These adjustments affect 617 employees and are being applied in two installments: 68 per cent of the increase on September 29, 1988 and 32 per cent on September 28, 1989.

Environmental Services

Manitoba Hydro knows some of its activities, undertaken to fulfill its mandate of delivering electricity to Manitobans, disturb the environment. The most visible are the construction of major generating and transmission facilities, which sometimes affect the way in which people use and enjoy land and water resources.

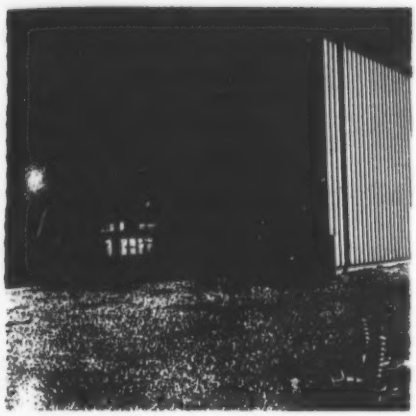
Manitoba Hydro's responsibilities with regard to the environment include preventing and reducing adverse environmental impacts where possible and assisting people in adapting to any unavoidable impacts. In short, the Corporation must demonstrate good stewardship of the land and water under its care, for present and future generations of Manitobans.

To this end, Manitoba Hydro incorporates environmental assessments and monitoring measures in the planning, design, construction and operation of its new facilities.

In 1988, environmental assessments began for two potential generating stations; Conawapa and its associated Bipole III HVDC transmission complex, and the Wuskwatim station and its associated transmission facilities. These studies, which could take up to three years to complete, will examine the environmental and social aspects of project development. Public participation is a critical component of the environmental assessment process and, accordingly, individuals affected by development will be involved in the evaluation of environmental problems and solutions.

Once information about potential adverse effects has been evaluated, appropriate impact management programs and activities can be designed. Such programs are aimed at reducing the probability and seriousness of the adverse effects of development. Other activities consider means of providing socio-economic opportunities for those affected by a water power development.

Initiated in 1985, programs for the Limestone project are an example of the Corporation's activity in this area. These programs include monitoring, mitigation, rehabilitation and on-site enforcement of environmental requirements, conducted through the cooperative efforts of Manitoba Hydro staff and government agencies.



In the 1988-89 fiscal year, Manitoba Hydro completed its specially designed facility for the storage of PCBs. The metal construction and curbed concrete floor are intended to reduce the risk of fire and to contain spills.

The Corporation also undertakes environmental assessments for new lower voltage transmission facilities and part of this process is public meetings to review Manitoba Hydro's plans. In addition to assessing the environmental impacts of new projects, the Corporation ensures that in its ongoing operations it is sensitive to environmental concerns. Manitoba Hydro works closely with government agencies to ensure that its thermal generating stations operate within applicable standards for air and water quality.

The use of certain hazardous substances and material is required in the normal course of carrying out the Corporation's mandate. Manitoba Hydro ensures that all use, storage, transportation and disposal of such materials is in accordance with current legislation, regulations and practices. Whenever feasible, non-contaminating and non-hazardous alternatives are used.

Manitoba Hydro, like society as a whole, faces many challenges in adapting to a more respectful relationship with the environment. The Corporation believes it is well on the way to ensuring its works and operations are environmentally sound.

Managing PCBs

Polychlorinated biphenyls (PCBs) are environmentally persistent substances which are difficult to destroy. By law any fluid containing 50 parts per million or more is deemed to be contaminated and a risk to the environment.

The stable properties of PCBs mandated their use as an insulating fluid in various types of electrical equipment. Many other pieces of equipment that were filled with non-PCB insulating oil inadvertently became contaminated with low levels of PCBs.

Manitoba Hydro is a leader among Canadian utilities in the identification, treatment and storage of PCB-contaminated material.

In 1985, Manitoba Hydro obtained special equipment which chemically destroys the PCB content in low-level contaminated oil and leaves the oil clean and reusable. Since this program began over 4 million litres of oil containing PCBs have been processed.

Last year the Corporation opened a specially-designed building at its Waverley Service Centre in Winnipeg to store PCB-contaminated solids and liquids with high PCB content until suitable disposal methods have been decided upon for Manitoba. The building features metal construction with a curbed concrete floor to reduce the possibility of fire and to contain spills.

Mitigation

It is Manitoba Hydro's policy to ensure that all those who are adversely affected by its projects are dealt with fairly and equitably through mitigation and compensation programs.

The Churchill River Diversion and Lake Winnipeg Regulation projects, undertaken in the early 1970s, allowed Manitoba Hydro to significantly increase the capacity of the Burntwood and Nelson Rivers to produce electricity.

Electricity consumers in Manitoba benefit from these water diversion and regulation projects. It is recognized that the economies and way of life of several communities in the northern part of the province have been affected by the flooding and the alteration of seasonal water levels and flows. To date, Manitoba Hydro has provided approximately $73 million in compensation and remedial measures to ameliorate losses or damage.

A major portion of the compensation (approximately $41.1 million) has been directed at five Indian bands which have experienced adverse effects as a consequence of the projects. These bands, along with the Government of Canada, the Province of Manitoba and Manitoba Hydro, are signatories of the Northern Flood Agreement (NFA). This 1977 Agreement allows the Corporation to continue operating the Churchill River Diversion and Lake Winnipeg Regulation projects while providing a formal mechanism by which the five bands can obtain compensation for the adverse effects of the projects. The Agreement ensures discussion on cause or extent of adverse effects and

Safety

The harbour seal, photographed in the Nelson River near Gillam Island, is an example of the northern wildlife that must be considered when any new hydroelectric project is undertaken.

facilitates implementation of appropriate response programs. Where substantive disagreements exist, parties can seek resolution through an arbitrator.

Since 1979, Manitoba Hydro has processed over 3 015 claims from individuals, with 2 658 settled to the claimants' satisfaction. Approximately 121 of the individual claims have been rejected outright, with 236 still under review.

In addition, the bands have filed approximately 147 claims with the arbitrator, of which 131 involve Manitoba Hydro, to effectively group together obligations under the Agreement. Seventy-five of the major claims have been negotiated outside of arbitration and six have required review and final award by the arbitrator. The remaining 50 claims are active.

In the 1988-89 fiscal year, commercial resource harvesting claims received priority attention, with three significant settlements made with respect to commercial trapping in the Nelson House, Cross Lake and Split Lake areas.

The four parties to the NFA each appointed a Senior Negotiator in December 1988 to participate in comprehensive negotiations intended to accelerate implementation of the Agreement. The negotiations are directed at achieving a comprehensive settlement before the end of 1989.

For the 25th consecutive year, Manitoba Hydro's safety record ranked among the top four of 14 major Canadian electrical utilities.

Manitoba Hydro placed fourth in the category combining normal electric utility operations and heavy construction operations. The number of disabling injuries increased marginally from 8.21 per million hours worked in calendar year 1987 to 8.88 in 1988.

The Corporation ranked second in 1988 in the category of preventable motor vehicle accidents, with 3.6 accidents per million kilometres driven.

Manitoba Hydro continues to support an active fire prevention and protection program. A total of 69 volunteer members of the Corporation's 11 fire brigades at Manitoba Hydro generating and converter stations became certified as Level I Industrial Fire Fighters by the Provincial Fire Commissioner's office during the year.

For the third year in a row, a team of four firefighters from Manitoba Hydro won the Canadian Firefighters Rodeo, competing against 25 other firefighting teams from Manitoba, Saskatchewan and the U.S.

Corporate fire brigades responded to a total of 27 fires involving Manitoba Hydro property in 1988-89. Health education programs for employees continued during the year with a high degree of employee interest and participation. Presentations were made on hypertension, back care, cancer, smoking cessation, risk factors in heart disease, hearing conservation and AIDS education.

Manitoba Hydro's 35 joint worker-management Workplace Safety and Health Committees are assuming an expanded role and are making an important contribution to employee good health.

A strong emphasis on public safety awareness programs continued during the year through the distribution of a variety of printed and electronic material. Safety was also the subject of a number of presentations in schools while at fairs and exhibitions, a special demonstration unit addressed safety on the farm.

FINANCIAL SECTION

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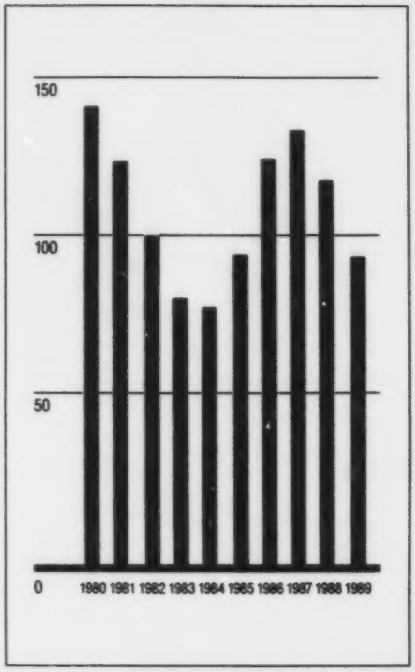
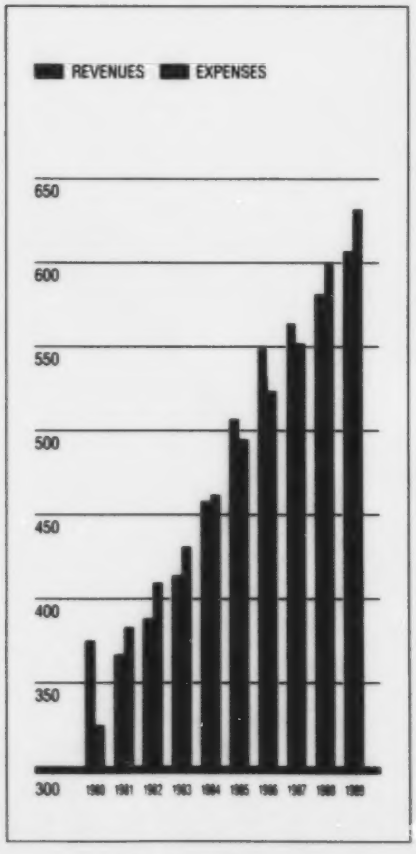
FINANCIAL REVIEW

Operations for the year ended March 31, 1989 resulted in a net expense of $26.4 million compared to a net expense of $18.5 million in the previous fiscal year. This is the second consecutive year during which expenses exceeded revenues, reflecting the financial impact of the drought which began two years ago, and the introduction of a policy change in accounting for pension costs. Corporate financial reserves have been reduced from $118.8 million in 1987-88 to $92.4 million in 1988-89 and are significantly lower than the targeted minimum reserve level of approximately $200 million considered to be adequate for the Corporation. Reserves are essential to prevent large rate increases caused by periodic drought and unexpected contingencies. The Corporation intends to build reserves to adequate levels and to avoid large rate fluctuations when new generation and transmission facilities are added to the system, while remaining sensitive to the impact of rate increases on its customers.

The continuation of the drought in 1988-89 has again severely curtailed the amount of electricity generated by Manitoba Hydro. Total generation from the integrated system decreased from 18.9 billion kilowatt hours to 16.1 billion kilowatt hours. Hydraulic generation decreased by 15.6% from 18.0 billion kilowatt hours in 1987-88 to 15.2 billion kilowatt hours. This is a reduction of almost 37% from the record amount of hydraulic generation in 1986-87 and is approximately 28% less than the quantity of hydraulic generation produced during periods of normal water flows. As a result, the amount of surplus power available for export was reduced and energy purchase costs increased.



RESERVE LEVELS
(in millions of dollars)



REVENUES vs EXPENSES
(in millions of dollars)

Effective April 1, 1988, Manitoba Hydro began accounting for pension costs in accordance with generally accepted accounting principles and commenced recognizing its pension liability in respect of past and current pension benefits. At April 1, 1988 past service benefits were estimated to be $179.6 million and are being charged to operations over a 15-year period. In addition, current service pension costs are charged to operations in the year the benefits are earned by the employees. The policy change has resulted in a significant increase in pension costs.

Revenues increased by $29.2 million or 5.0% to $609.5 million. The increase reflects the effects of higher consumption of electricity by Manitoba customers and the rate increase implemented April 1, 1988. These were partially offset by a large decrease in extraprovincial sales.

Expenses increased by $37.1 million to $635.9 million, an increase of 6.2% over the previous year. This was primarily due to the introduction of the policy change in accounting for pension costs and to increased fuel and power purchase costs related to the drought.

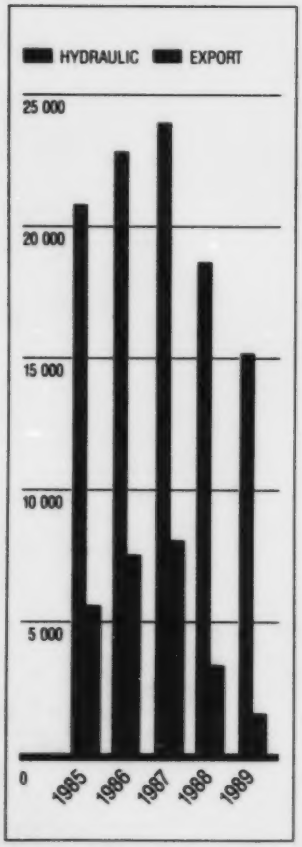
REVENUES

Sale of Power - Manitoba

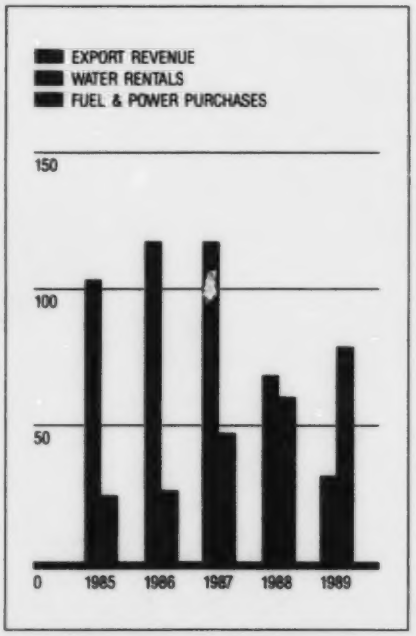
Electricity sales to Manitoba customers increased from 13.6 billion kilowatt hours in 1987-88 to 14.5 billion kilowatt hours in 1988-89, with the largest increases in consumption occurring in the general service and residential sectors. The extremely hot summer in 1988 together with the return to more normal weather conditions in the winter of 1988-89 were largely responsible for the 6.6% increase in sales. The growth in provincial consumption, combined with the 4.5% general rate increase implemented April 1, 1988, increased general consumers revenue to $517.3 million. This, together with revenue of $53.6 million from Winnipeg Hydro under the terms of the cost sharing agreement, resulted in total revenue from Manitoba customers of $570.9 million, an increase of 12.3% over the previous fiscal year.

Sale of Power - Extraprovincial

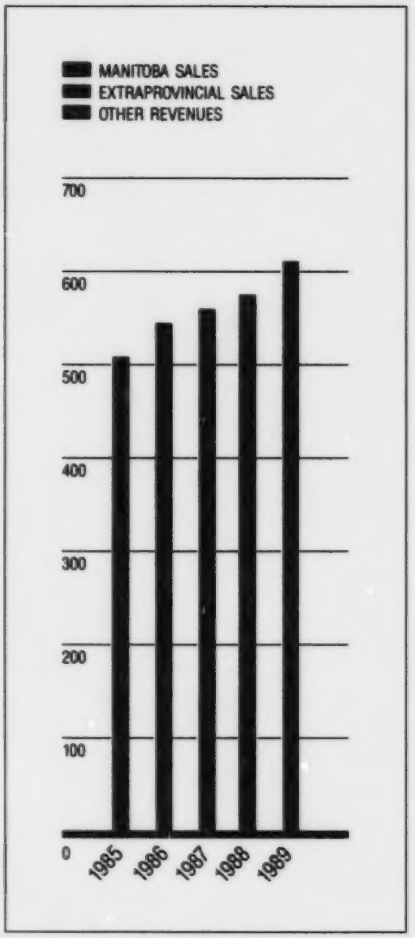
Low water flow conditions reduced hydraulic generation significantly from the already low levels of the previous year. As a result extraprovincial sales in 1988-89 decreased to 1.2 billion kilowatt hours or 64.7% less than the 3.4 billion kilowatt hours sold in 1987-88. Extraprovincial revenue decreased from $66.0 million in 1987-88 to $31.1 million in 1988-89, however the average return per kilowatt hour increased from 20.3 mills to 25.6 mills due, in part, to the reduced volume available for sale.



HYDRAULIC GENERATION vs EXPORT SALES
(in millions of kW.h)



EXPORT REVENUE vs GENERATION COSTS
(in millions of dollars)



SOURCES OF REVENUES
(in millions of dollars)

EXPENSES

Finance Expense

Finance expense decreased by $11.7 million to $241.7 million. This reflects the impact of the improvement in the value of the Canadian dollar in relation to the U.S. dollar on U.S. interest payments and in the amortization of foreign exchange on U.S. long-term debt. Additional cost savings were realized due to the favourable interest rate spread on short-term investments over long-term financing which was arranged in advance of 1989-90 requirements.

Operating and Administrative

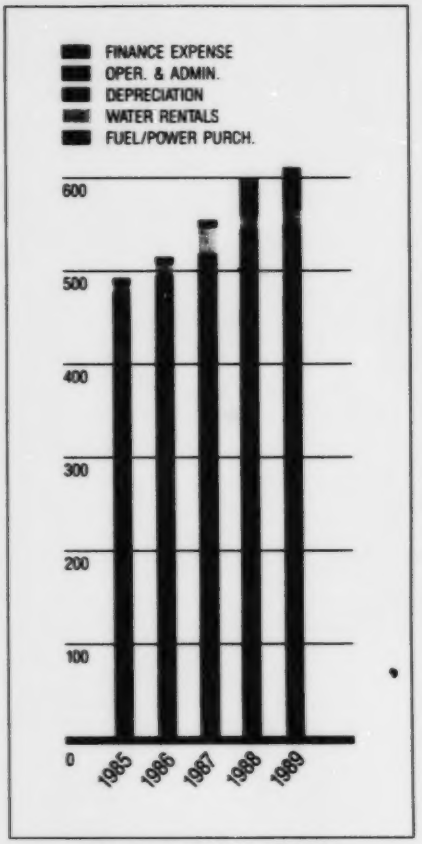
Operating and administrative costs increased by $26.0 million to $229.7 million due primarily to the impact of the policy change in accounting for pension costs.

Operating and administrative costs excluding pensions, increased by 1% or $2.1 million over the previous year. This included a $2.3 million increase in transmission line lease payments and a reduction of $0.2 million related to relatively small decreases associated with the operation, maintenance and administration of the utility. This reflects the Corporate commitment to delay or reduce controllable costs wherever possible providing that system integrity and customer service are not jeopardized and significantly higher costs will not be incurred at a later date.

Pension costs increased by $23.9 million over the previous year mainly due to the introduction of the policy change in accounting for pension costs. Effective April 1, 1988, in accordance with generally accepted accounting principles, the Corporation recorded the pension liability in respect of the participation of employees in the Manitoba Civil Service Superannuation Fund. This liability was approximately $179.6 million. The associated past service benefits are being amortized to operations on a sinking fund basis over 15 years. In addition, the annual increase in the liability due to current service of employees and interest equivalents is being charged to operations as it occurs. Prior to this, the Corporation's 50% share of pension disbursements made to retired employees was charged to operations as incurred.

Depreciation

Depreciation charges increased by $2.5 million largely due to additions to transmission, substation and distribution plant. A major review of depreciation rates, undertaken with the assistance of a consultant, was completed in 1988-89. The review resulted in more refined estimates of the life expectancy of the various system components. Based on revised service lives, new depreciation rates were adopted for the 1988-89 fiscal year.



DISTRIBUTION OF EXPENSES
(in millions of dollars)

Water Rentals

The 16.6% reduction in Manitoba Hydro's hydraulic generation caused by the drought resulted in water rental costs of $22.9 million, a reduction of $3.3 million from 1987-88.

Fuel and Power Purchased

Fuel and power purchased costs increased by 67.1% to $59.0 million. Higher consumption of electricity by customers in Manitoba and the continuation of the drought resulted in an additional $24.2 million in power purchases from utilities outside the province.

CAPITAL EXPENDITURES AND FINANCING

Investment in Fixed Assets

Investments in fixed assets to meet expected growth in demand for electricity and to provide customer service increased by $380.1 million to $3 541.3 million. Capital expenditures of $216.1 million were incurred on the Limestone Generating Station, $10.9 million on Limestone-related transmission enhancements and $12.0 million on the Letellier-St. Leon transmission project. Approximately $11.3 million was spent on other major transmission facilities with the balance occurring for other additions, modifications and service extensions throughout the province.

Financing

The Corporation utilizes cash from operations and external financing in order to finance capital construction. Cash provided by operating activities was $74.3 million (1987-88 $80.9 million) and external financing net of debt maturities totalled $304.8 million. A portion of the additional financing was obtained in advance of 1989-90 capital expenditure requirements because of attractive market conditions.

EXPOSURE MANAGEMENT PROGRAM

Commencing with the 1989-90 fiscal year the Corporation has adopted an exposure management program. The purpose of the program is to actively manage and limit the potential adverse financial impact of U.S. dollar exchange fluctuations on the Corporation.

PUBLIC UTILITIES BOARD

In January 1989, in accordance with legislation enacted by the Government of Manitoba, the Corporation applied to the Public Utilities Board for approval of an average general consumers rate increase of 6% effective April 1, 1989. The application if approved would have provided additional revenue of approximately $31.4 million and recognized Manitoba Hydro's need to recover costs and to improve financial reserves that had been depleted due to the drought.

Interventions regarding the proposed rate increase were filed on behalf of the Consumers' Association of Canada and the Manitoba Society of Seniors Inc., the Manitoba Industrial Power Users Group, and the City of Winnipeg. In addition, various individuals and representatives of other groups made presentations to the Public Utilities Board. During the week of March 13, 1989, a formal hearing was held by the Public Utilities Board in Winnipeg, with subsequent public meetings being held in Thompson, Morden and Dauphin to hear presentations from any interested parties.

On March 28, 1989, the Public Utilities Board, in its Order 42/89 directed that the general consumers rate increase to be implemented April 1, 1989 be reduced by 1% to an average of 5% representing an approved increase in additional revenue of approximately $26.1 million. The resulting reduction in additional revenue of approximately $5.3 million was allocated by reducing the proposed rate increases in the street lighting and small non-demand classes from 5.7% and 1.47% respectively to zero, in the medium general service class from 7.2% to 5.0%, in the small general service class from 8.07% to 5.0% and in the residential class from 6.4% to 5.8%.

SUBSEQUENT EVENT

In the Budget Speech of June 5, 1989, the Minister of Finance for the Province of Manitoba announced that legislation will be brought forward to terminate the Energy Rate Stabilization Act as of April 1, 1989 thereby completing the process begun with the 1987 amendment of returning to Manitoba Hydro the future foreign exchange risk associated with foreign borrowings prior to April 1, 1987.

Effective April 1, 1989 the future foreign exchange risk associated with foreign long-term debt other than United States arranged prior to April 1, 1987 will be transferred by the Province of Manitoba to Manitoba Hydro. These costs were previously assumed by the Province of Manitoba and replaced by Canadian equivalent costs based on Canadian rates for similar terms as at the date the debt was incurred.

In addition to the amounts which the Province of Manitoba had provided in their accounts to March 31, 1987 for United States debt arranged prior to April 1, 1987, the Province will retain the obligation to pay up to the amounts that have been provided in the Province's accounts which represent the entire translation gains or losses to March 31, 1989 for foreign long-term debt in currencies other than United States arranged prior to April 1, 1987. The Province's maximum obligation is approximately $152.5 million for United States debt and $140.2 million for debt denominated in currencies other than United States.

The Minister of Finance also announced a 10% increase in water rental rates effective September 1, 1989 and an increase of ⅛ of 1% in the Province's service charge on Corporate borrowings effective April 1, 1990.

MANAGEMENT REPORT

The accompanying financial statements are the responsibility of management and have been prepared in accordance with generally accepted accounting principles as established in Canada. These principles have been applied on a basis consistent with that of the preceding year, except for the change in accounting policy for pension costs as described in Note 2. The financial information presented elsewhere in the Annual Report is consistent with that in the financial statements.

Management is responsible for the records that provide the data included in the financial statements and accordingly maintain systems of internal control to provide reasonable assurance of the reliability of this financial information, and that the assets of the Corporation are safeguarded.

In management's opinion the financial statements have been properly prepared within reasonable limits of materiality, incorporating management's best judgement regarding all necessary estimates and all other data available to June 5, 1989.

G.H. Beatty
President and
Chief Executive Officer

R.B. Brennan, C.A.
Senior Vice-President Finance
and Administration and
Chief Financial Officer

AUDITORS' REPORT

To the Manitoba Hydro-Electric Board

We have examined the balance sheet of The Manitoba Hydro-Electric Board as at March 31, 1989 and the statements of operations, reserves and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Corporation as at March 31, 1989 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied, except for the change in the method of accounting for pension costs as described in Note 2 to the financial statements, on a basis consistent with that of the preceding year.

Peat Marwick

Winnipeg, Canada
June 5, 1989

CHARTERED ACCOUNTANTS

Statement of Operations

FOR THE YEAR ENDED MARCH 31, 1989 (with 1988 figures for comparison)

	1989	1988
	(thousands of dollars)	
REVENUES		
Sale of power		
Manitoba	$570 862	$508 345
Extraprovincial	31 142	66 024
Other revenue	7 497	5 933
	609 501	580 302
EXPENSES		
Operating and administrative (Note 2)	229 691	203 728
Depreciation—plant	82 620	80 109
Water rentals	22 867	26 220
Fuel and power purchased	59 049	35 330
	394 227	345 387
Net income before finance expense	215 274	234 915
FINANCE EXPENSE (Note 3)	241 710	253 408
NET EXPENSE	$ 26 436	$ 18 493

The accompanying notes are an integral part of the financial statements.

Balance Sheet

AS AT MARCH 31, 1989 (with 1988 figures for comparison)

ASSETS	1989	1988
	(thousands of dollars)	
FIXED ASSETS (Note 4)		
In service	$3 619 824	$3 496 495
Less: Accumulated depreciation	996 568	929 457
	2 623 256	2 567 038
Construction in progress	918 077	675 323
	3 541 333	3 242 361
CURRENT ASSETS		
Temporary investments	311 000	228 000
Accounts receivable	65 126	63 900
Accrued revenue and interest receivable	41 709	32 189
Materials and supplies, at average cost	35 849	32 247
	453 684	356 336
OTHER ASSETS		
Deferred pension expense (Note 2)	176 964	–
Deferred expenses and advances (Note 5)	213 721	233 346
	390 685	233 346
	$4 385 702	$3 832 043

Approved on behalf of the Board:

Chairman

Vice-Chairman

LIABILITIES AND RESERVES

	1989	1988
	(thousands of dollars)	
LONG-TERM DEBT (Note 6)	$3 341 141	$3 213 030
CURRENT LIABILITIES		
Bank balances	8 084	3 415
Accounts payable and accrued liabilities	85 880	73 294
Notes payable, due within one year	109 287	–
Accrued interest	96 951	98 502
Current portion of long-term debt (Note 6)	314 298	229 655
	614 500	404 866
DEFERRED LIABILITIES	22 194	18 750
PENSION OBLIGATION (Note 2)	200 326	–
DEFERRED CREDITS (Note 7)	115 163	76 583
RESERVES (Note 9)	92 378	118 814
	$4 385 702	$3 832 043

The accompanying notes are an integral part of the financial statements.

Statement of Reserves

FOR THE YEAR ENDED MARCH 31, 1989 (with 1988 figures for comparison)

	1989			1988
	(thousands of dollars)			
	Contingency and General	Rate Stabilization	Total	Total
BALANCE—BEGINNING OF YEAR	$137 277	$(18 463)	$118 814	$137 307
Net expense transferred from operations	—	(26 436)	(26 436)	(18 493)
BALANCE—END OF YEAR	$137 277	$(44 899)	$ 92 378	$118 814

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Financial Position

FOR THE YEAR ENDED MARCH 31, 1989 (with 1988 figures for comparison)

	1989	1988
	(thousands of dollars)	
OPERATING ACTIVITIES		
Cash from operations		
Net expense	$(26 436)	$(18 493)
Depreciation—plant	82 620	80 109
Amortization of debt discount and expense	7 097	4 926
Amortization of foreign exchange	(4 441)	(3 389)
Pension expense	23 362	—
Other	(2 489)	(1 324)
Non-cash working capital change	(5 445)	19 076
Cash provided by operating activities	74 268	80 905
FINANCING ACTIVITIES		
Proceeds from long-term debt	484 140	624 245
Retirement of long-term debt	(179 311)	(107 704)
Contributions and advances in aid of construction	31 303	8 537
Increase (decrease) in notes payable	109 287	(44 510)
Sinking fund payment	(50 350)	(45 409)
Deferred cost of matured forward exchange contracts	—	7 548
Other	1 369	2 879
Cash provided by financing activities	396 438	445 586
INVESTING ACTIVITIES		
Additions to fixed assets	(380 075)	(311 009)
Other assets	(12 300)	(6 096)
Cash used in investing activities	(392 375)	(317 105)
INCREASE IN CASH	78 331	209 386
CASH AT BEGINNING OF YEAR	224 585	15 199
CASH AT END OF YEAR	$302 916	$224 585

The components of cash are bank balances and temporary investments.

The accompanying notes are an integral part of the financial statements.

Notes to the Financial Statements
FOR THE YEAR ENDED MARCH 31, 1989

NOTE 1—SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared in accordance with generally accepted accounting principles as established in Canada.

a) Fixed Assets

Fixed assets are stated at cost which consists of contracted services, direct labour, material and expense, a proportionate share of overhead costs and interest applied at the effective rates incurred in financing construction. Finance expense is allocated to construction until a facility becomes operational or a decision is made to abandon, cancel or indefinitely defer construction. The cost of plant removed plus removal costs less salvage value is charged to accumulated depreciation.

Main facilities of major projects under construction become operational on a progressive basis. As such facilities become operational, related construction costs and a pro rata share of related common properties are transferred to plant in service. Once the transfer to plant in service is made, finance expense allocated to construction ceases and depreciation and finance expense charged to operations commences.

Depreciation is provided on a straight-line remaining life basis. The major components of generating stations are depreciated over the lesser of the remaining life of the major component or the remaining life of the associated generating station.

As a result of a depreciation review completed in 1989, the estimated service lives of the assets were revised to reflect current experience. No significant change in depreciation expense for 1989 resulted from this revision.

The range of the estimated service lives of components within each major asset category is as follows:

Hydro-electric generation	40-100 years
Thermal-electric generation	35-40 years
Transmission lines and stations	20-80 years
Distribution lines	10-60 years

b) Foreign Exchange:

Long-Term Debt

The translation of foreign long-term debt and the extent to which Manitoba Hydro is responsible for the resulting translation gains or losses has been established by the Energy Rate Stabilization Act. The Act, which came into force April 1, 1979 and was amended April 1, 1987, sets out the Corporation's obligations on foreign long-term debt as follows (see Note 10):

i) Foreign Long-Term Debt Transacted After March 31, 1987

Manitoba Hydro is responsible for translation gains or losses associated with all foreign borrowings transacted after March 31, 1987.

Long-term debt is translated into Canadian currency at the rates of exchange prevailing at the date of the balance sheet. The unrealized exchange gains or losses are amortized on a straight-line basis over the remaining life of the related debt and together with realized exchange gains or losses are credited or charged to operations.

ii) Foreign Long-Term Debt Transacted Prior to April 1, 1987

a) Foreign debt other than United States:

The Province of Manitoba is responsible for the translation gains or losses associated with foreign debt denominated in currencies other than United States transacted prior to April 1, 1987.

The Province of Manitoba has relieved the Corporation of the costs associated with this foreign debt by replacing it with the Canadian equivalent costs based on Canadian rates for similar terms as at the date the debt was incurred. Had the Province of Manitoba not assumed the cost of this foreign debt, the valuation of the long-term debt of the Corporation as at March 31, 1989 would have been increased by approximately $140.2 million (1988—$330.0 million) when translated at the year-end rates of exchange. The Province of Manitoba confirmed that the amount charged to the Energy Rate Stabilization Act appropriation in the current year was $44.1 million (1988—$83.9 million).

b) United States debt:

Effective April 1, 1987 the foreign exchange risks associated with United States debt were transferred by the Province of Manitoba to Manitoba Hydro and accordingly the Corporation assumed responsibility for the translation gains or losses associated with this debt. The Province of Manitoba retains the obligation to pay up to the amounts that have been provided in the Province's accounts in respect of United States debt to March 31, 1987. The translation gains or losses for which the Province is responsible are recorded as deferred expenses and advances on the balance sheet. The Province's obligation amounts to approximately $127.4 million based on rates of exchange prevailing at March 31, 1989 (1988—$136.9 million). These amounts will be disbursed at the maturity dates of the respective United States issues dependent upon exchange rates prevailing at the maturity dates to a maximum of $152.5 million at March 31, 1989 (1988—$152.5 million).

Long-term United States debt is translated into Canadian currency at rates of exchange prevailing at the date of the balance sheet. The unrealized exchange gains or losses net of the amount amortized by the Province are amortized on a straight-line basis over the remaining life of the related debt and together with realized exchange gains or losses are credited or charged to operations.

Effective April 1, 1989, the Corporation has adopted an exposure management program which will restrict the risk of foreign exchange losses by limiting the amount of net United States dollar exposure. The amortization of unrealized foreign exchange gains or losses on United States principal debt will be discontinued in recognition of the natural offset provided by future revenue streams denominated in United States dollars.

Current Assets and Current Liabilities

Current monetary assets and liabilities denominated in foreign currencies are translated into Canadian currency at rates of exchange prevailing at the date of the balance sheet. The unrealized exchange gains or losses together with realized exchange gains or losses are credited or charged to operations.

Sinking Fund Investments

Sinking fund investments denominated in foreign currencies are translated into Canadian currency at the rates of exchange prevailing at the date of the balance sheet, except where the investments have been hedged by the Minister of Finance of the Province of Manitoba, in which case the hedged rate confirmed by the Province is used in the translation. The unrealized exchange gains or losses are amortized on a straight-line basis over the remaining life of the investment and together with realized exchange gains or losses are credited or charged to operations.

Other Transactions

Revenue and expense transactions made in foreign currencies are translated into Canadian currency at the rates of exchange prevailing at the date of the transaction, except transactions covered by monetary contracts against exchange risks which are translated into Canadian dollars at the rates of exchange established by the contracts.

c) **Pensions**

Manitoba Hydro provides pension benefits to employees through the Manitoba Civil Service Superannuation Fund, a defined benefit plan which requires the Corporation to contribute 50% of the pension disbursements made to retired employees. In addition, the Manitoba Hydro Retirement Plan continues to provide benefits to pensioners in respect of service prior to the date each employee entered the Manitoba Civil Service Superannuation Fund.

Actuarial valuations are carried out every three years and provide an estimate of the accrued pension benefits. Based upon formulas provided by the actuaries, the present value of the unfunded accrued pension benefits resulting from the pension plans as at March 31 are:

	1989	1988
	(millions of dollars)	
Civil Service Superannuation Fund	$197.1	$179.6
Manitoba Hydro Retirement Plan	3.2	3.2

The present value of the past service benefits, to the extent not previously charged to operations, is recognized in the financial statements as a deferred pension expense and will be amortized on a sinking fund basis over a 15 year period to pension expense. The pension obligation recognized in the financial statements represents the present value of the unfunded pension liability and will be reduced by actual disbursements to retired employees.

Total pension expense for the year ended March 31, 1989 amounted to $29.3 million (1988—$5.4 million).

d) **Unamortized Debt Discount and Expense**

These costs are charged to income over the life of the respective issue.

e) **Discount on Sinking Fund Investments**

The Corporation records sinking fund investments at par value. The difference between the cost and the par value of the investments is recorded as a premium or discount and is amortized over the remaining life of the investment. Any gain or loss on early disposal is credited or charged to operations.

f) **Unamortized Planning Studies**

These costs are charged to income over a 15 year period.

g) **Unbilled Revenue**

Revenues are accrued in respect of electricity delivered for those cycles not yet billed.

NOTE 2—CHANGE IN ACCOUNTING POLICY

Effective April 1, 1988 the Corporation adopted, on a prospective basis, a change in the method of accounting for pension costs as described in Note 1c.

Prior to April 1, 1988, the Corporation's 50% share of pension disbursements to retired employees was charged to operations as incurred and the Corporation did not make provision in the accounts to reflect current or past service obligations of the Corporation to the Civil Service Superannuation Fund.

This change in accounting policy resulted in an increase in the charge to operations of $23.3 million compared with the method used in the year ended March 31, 1988, and the recognition in the financial statements of an unfunded pension obligation of $200.3 million and unamortized deferred pension expense of $177.0 million.

NOTE 3—FINANCE EXPENSE

	1989	1988
	(thousands of dollars)	
Interest on debt	$381 992	$359 941
Amortization of foreign exchange gains or losses	(4 441)	(3 389)
Amortization of debt discount and expense	7 097	4 926
Finance expense allocated to construction	(75 831)	(58 297)
Investment income	(67 107)	(49 773)
	$241 710	$253 408

NOTE 4—FIXED ASSETS (at cost)

	1989		
	Original Cost	Accumulated Depreciation	Construction In Progress
		(thousands of dollars)	
Generation	$1 893 401	$456 677	$832 539
Transmission	246 300	70 878	10 611
Substations	744 961	207 476	28 871
Distribution	581 305	193 695	14 093
Other	153 857	67 842	31 963
	$3 619 824	$996 568	$918 077

	1988		
	Original Cost	Accumulated Depreciation	Construction In Progress
		(thousands of dollars)	
Generation	$1 874 587	$429 364	$623 430
Transmission	221 097	67 694	1 446
Substations	720 182	186 491	16 051
Distribution	542 929	181 277	11 768
Other	137 700	64 631	22 628
	$3 496 495	$929 457	$675 323

NOTE 5—DEFERRED EXPENSES AND ADVANCES

	1989	1988
		(thousands of dollars)
Unamortized debt discount and expense	$ 30 131	$ 30 338
Unamortized planning study costs	41 199	32 096
Unamortized foreign exchange net loss on long-term debt	—	20 866
Amounts receivable from the Province under E.R.S.A.	127 376	136 941
Advance to the Northern Flood Committee Inc. (Note 8b)	5 231	5 299
Other	9 784	7 806
	$213 721	$233 346

NOTE 6—LONG-TERM DEBT

Manitoba Hydro's long-term debt is either advanced from or guaranteed by the Province of Manitoba.

As provided by The Manitoba Hydro Act, the Corporation pays an annual sinking fund installment to the Minister of Finance of the Province of Manitoba of not less than 1% of the principal amount of the outstanding long-term debt on the preceding March 31, and 4% of the balance in the sinking fund at such date. Such installments would provide for the full retirement of a debt obligation only if the obligation was outstanding for 41 years. Income earned on sinking fund investments is remitted to the Corporation and is included with investment income for the year.

For the purpose of financing capital construction expenditures and repaying debt during the year, the Corporation arranged advances in the principal amount of $486.2 million from the Province of Manitoba as follows:

- $246.1 million (U.S. $200.0 million) due September 15, 1998 with interest at 9.5%.
- $240.1 million (U.S. $200.0 million) due December 1, 2018 with interest at 9.625%.

During the year, the Corporation received $4.9 million from the sale of warrants which provide the holder the option on September 15, 1998 to purchase up to U.S. $200.0 million 20 year debentures at 9.5% interest.

Long-Term Debt:	1989	1988
		(thousands of dollars)
Total long-term debt outstanding —		
The Manitoba Hydro-Electric Board Bonds	$1 255 659	$1 310 489
Advances from the Province of Manitoba represented by debenture debt of the Province	2 692 266	2 396 192
Advances from the Province of Manitoba under a loan agreement between the Province and the Government of Canada	112 617	114 668
	4 060 542	3 821 349
Less: Sinking fund on deposit with the Minister of Finance	405 103	378 664
	3 655 439	3 442 685
Less: Long-term debt maturing within one year — Maturities net of sinking fund plus annual sinking fund installment	314 298	229 655
	$3 341 141	$3 213 030

Debt Maturities:

			Cash Requirements		
			(thousands of dollars)		
March 31	Principal Amount of Maturities	Weighted Average Coupon Rate	Maturities Net of Sinking Fund	Annual Sinking Fund Installments	Total
1990	$ 288 585		$ 260 000	$ 54 298	$ 314 298
1991	300 393		270 983	52 473	323 456
1992	196 744		158 375	50 418	208 793
1993	758 748		661 322	48 929	710 251
1994	167 421		116 172	39 402	155 574
	1 711 891	9.16%	1 466 852	245 520	1 712 372
1995-1999	1 273 956	8.22%	1 030 954	161 887	1 192 841
2000-2004	252 979	8.88%	154 122	105 801	259 923
2005-2009	583 076	9.11%	306 150	52 593	358 743
2010-2014	—	—	—	28 402	28 402
2015-2019	238 640	9.63%	103 980	34 556	138 536
	$4 060 542		$3 062 058	$628 759	$3 690 817

Long-term debt repayments to be made in Canadian dollars and in foreign currencies, with their Canadian dollar equivalents are shown in the following table:

	1990 to 1994	1995 to 2019	Total	1989	1988
	(in thousands of dollars)			(in thousands of Canadian dollars)	
Canadian dollars	$1 281 276	$ 221 183	$1 502 459	$1 502 459	$1 410 945
Foreign currencies:					
United States dollars at rates of exchange prevailing at the Balance Sheet date	*238 500	1 562 700	**1 801 200	2 150 992	1 878 655
Other foreign currencies in Canadian dollars as established by the Energy Rate Stabilization Act (see Note 10)	144 236	262 855	407 091	407 091	531 749
				$4 060 542	$3 821 349

* An amount (U.S. $125 000) maturing in 1990 is fixed by forward exchange contracts.

**A portion of translation gains or losses on U.S. $1 201 200 is the responsibility of the Province of Manitoba (see Note 1b).

NOTE 7—DEFERRED CREDITS

	1989	1988
	(thousands of dollars)	
Non-refundable capital contributions	$ 86 837	$60 287
Unamortized discount on purchase of sinking fund investments	10 688	12 982
Unamortized foreign exchange on sinking fund investments	1 233	2 652
Unamortized foreign exchange net gain on long-term debt	15 256	—
Other	1 149	662
	$115 163	$76 583

NOTE 8—COMMITMENTS

a) Lease Commitments

In accordance with a lease agreement entered into during 1966 between the Governments of Canada and Manitoba, direct current transmission facilities were constructed between the Kettle Generating Station and Winnipeg. The agreement provides for payment by the Corporation of the capital cost with accrued interest at 5.625% over a term of forty-five years in accordance with a payment schedule requiring substantially smaller payments during the earlier years. The schedule provides for payment of $22 500 000 for the year ended March 31, 1989 (1988—$20 000 000). Payments for the fiscal years 1990 to 2019 are calculated as an equal annual payment of $25 852 618 in order to amortize the outstanding balance over thirty years at 5.625%. The unpaid balance of principal plus accrued interest for transmission facilities amounted to approximately $368 770 000 as at March 31, 1989 (1988—$370 344 000).

The Corporation's policy is to charge the lease payments to operations in the period in which they become payable. This policy is consistent with the intent of the lease agreement of providing economic relief to ratepayers during the early years of the Nelson River development. This is evident when compared with a calculation of a charge in accordance with the C.I.C.A. recommendation on accounting for capital leases entered into subsequent to January 1, 1979, which indicates that an additional amount of approximately $3.3 million would have been charged to operations for the year and an additional net asset amount of approximately $168.5 million would have been recorded relating to the transmission facilities.

b) Mitigation

i) Northern Flood Agreement

Manitoba Hydro is party to an agreement with the Government of Canada, the Province of Manitoba and the Northern Flood Committee Inc., which includes compensation and mitigation for the impact of the Churchill River Diversion and Lake Winnipeg Regulation projects. The total spent on compensation and mitigation during the year was $4.8 million (1988—$4.7 million). The total amount paid to date under the Northern Flood Agreement is $36.4 million as at March 31, 1989. A total of 131 claims involving Manitoba Hydro have been filed to date with the Arbitrator with 81 claims having been settled. Of the 50 claims outstanding, Manitoba Hydro is not able to precisely determine the contingent liability but has estimated it to be in excess of $40.0 million. This estimate includes a settlement in principle of $7.6 million which has been reached with the Nelson House Band.

In addition to the above, in 1987 Manitoba Hydro advanced $5.0 million to the Northern Flood Committee Inc. to provide funds to the Indian Bands for their use in housing upgrading. This advance, adjusted for the time value of the advance, will reduce the amounts payable for future adjudicated claims. The advance was reduced by a $0.3 million settlement in 1989.

ii) Other

In addition, at March 31, 1989, $31.9 million had been paid by Manitoba Hydro for non Northern Flood Agreement claims. These claims are submitted by claimants not party to the Northern Flood Agreement directly to Manitoba Hydro for consideration. Manitoba Hydro is not able to precisely determine the contingent liability for submitted claims but has estimated it to be in excess of $4.0 million.

c) Construction Commitments

Construction on Limestone Generating Station has been committed to provide for first power in November 1990. The current forecasted cost of the new generating station is $1 569 million, of which costs of $843 million have been incurred to March 31, 1989.

Other outstanding commitments, principally for construction, were approximately $157 329 000 (1988—$112 262 000).

NOTE 9—RESERVES

The following reserves are maintained by the Corporation:

Contingency and General Reserve

An amount as stipulated by the Manitoba Hydro-Electric Board may be transferred annually to this reserve. No transfers were made during 1989 or 1988.

Rate Stabilization Reserve

The net (expense) income after provision for the contingency and general reserve is transferred annually to this reserve.

NOTE 10—SUBSEQUENT EVENT

In the Budget Speech of June 5, 1989 the Minister of Finance for the Province of Manitoba announced that legislation will be brought forward to terminate the Energy Rate Stabilization Act as of April 1, 1989.

Effective April 1, 1989 the foreign exchange risks associated with foreign debt transacted prior to April 1, 1987, denominated in currencies other than United States will be transferred by the Province of Manitoba to Manitoba Hydro and accordingly the Corporation will assume responsibility for further translation gains or losses associated with this debt. The Province of Manitoba will retain the obligation to pay up to the amounts that have been provided in the Province's accounts in respect of this foreign debt to March 31, 1989. This obligation amounts to approximately $140.2 million based on rates of exchange prevailing at March 31, 1989 and represents the entire translation gains or losses to that date.

Manitoba Hydro Generating Stations and Capabilities

As At March 31, 1989 (Normal Winter Capability)

INTERCONNECTED CAPABILITIES

	STATION	LOCATION	No. of Units	Winter Capability in Kilowatts
HYDRAULIC:	Great Falls	Winnipeg River	6	132 000
	Seven Sisters	Winnipeg River	6	150 000
	Pine Falls	Winnipeg River	6	82 000
	McArthur	Winnipeg River	8	56 000
	Grand Rapids	Saskatchewan River	4	472 000
	Kelsey	Nelson River	7	224 000
	Kettle	Nelson River	12	1 272 000
	Jenpeg	Nelson River	6	126 000
	Long Spruce	Nelson River	10	980 000
	Laurie River (2)	Laurie River	3	10 000
	TOTAL HYDRAULIC			3 504 000
THERMAL:	Brandon		5	237 000
	Selkirk		2	132 000
	TOTAL THERMAL			369 000
	TOTAL			**3 873 000**

ISOLATED CAPABILITIES

DIESEL:	Brochet	825
	Garden Hill	3 665
	Gods Lake Narrows	1 200
	Gods River	525
	Lac Brochet	525
	Oxford House	1 600
	Pikwitonei	350
	Red Sucker Lake	650
	St. Theresa	1 475
	Shamattawa	825
	Tadoule Lake	350
	Thicket Portage	500
	Waasagomach	900
	TOTAL	13 390
TOTAL GENERATING CAPABILITY		**3 886 390**

FINANCIAL STATISTICS

(thousands of dollars)

	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
STATEMENT OF OPERATIONS										
Revenues										
Residential	**223 912**	205 388	186 214	176 755	162 422	140 481	122 023	119 474	111 591	113 625
General Service and Misc.	**291 614**	259 250	227 642	223 198	205 247	180 280	155 864	158 734	138 837	136 298
Winnipeg Hydro (Cost Sharing Agreement)	**53 564**	43 707	35 415	32 984	29 826	29 398	27 180	33 146	26 682	25 435
Extraprovincial	**31 142**	66 024	113 489	112 846	103 151	105 654	105 411	72 384	81 965	95 965
Construction Power	**1 772**	0	0	0	0	0	0	0	0	0
Other Revenue	**7 497**	5 933	6 928	6 820	5 768	5 684	4 217	3 865	2 768	3 022
	609 501	580 302	569 688	552 603	506 414	461 497	414 695	387 603	361 843	374 345
Expenses										
Operating and Administrative	**229 691**	203 728	187 941	173 866	157 753	148 975	138 503	120 071	105 442	88 981
Depreciation—Plant	**82 620**	80 109	77 683	74 470	69 339	66 294	61 718	60 127	57 793	53 313
Water Rentals	**22 867**	26 220	37 582	17 850	11 287	11 760	11 575	9 342	8 956	4 765
Fuel and Power Purchased	**59 049**	35 330	10 460	9 399	14 392	9 289	8 192	16 711	9 973	5 592
Finance Expense	**241 710**	253 408	242 574	246 753	242 509	228 853	213 836	205 544	195 947	176 091
	635 937	598 795	556 240	522 338	495 280	465 171	433 824	411 795	378 111	328 742
Net (Expense) Income Transferred (From) To Reserves	**(26 436)**	(18 493)	13 448	30 265	11 134	(3 674)	(19 129)	(24 192)	(16 268)	45 603
BALANCE SHEET										
Assets										
Fixed Assets in Service	**3 619 824**	3 496 495	3 395 825	3 314 378	3 173 197	3 030 182	2 945 435	2 891 325	2 808 938	2 659 268
Less: Accumulated Depreciation	**996 568**	929 457	854 833	783 776	713 619	647 001	584 534	524 720	469 158	413 720
Construction in Progress	**918 077**	675 323	473 655	326 005	270 947	301 641	272 013	202 544	188 792	244 175
Current and Other Assets	**844 369**	589 682	225 481	272 648	193 058	249 270	251 561	156 665	121 269	131 528
	4 385 702	3 832 043	3 240 128	3 129 255	2 923 583	2 934 092	2 884 475	2 725 814	2 649 841	2 621 251
Liabilities and Reserves										
Long-Term Debt—Net	**3 341 141**	3 213 030	2 652 128	2 523 786	2 213 115	2 404 657	2 367 561	2 297 887	2 230 803	2 221 647
Current and Other	**952 183**	500 199	450 693	481 610	616 874	451 082	434 887	326 771	293 690	257 988
Reserves	**92 378**	118 814	137 307	123 859	93 594	78 353	82 027	101 156	125 348	141 616
	4 385 702	3 832 043	3 240 128	3 129 255	2 923 583	2 934 092	2 884 475	2 725 814	2 649 841	2 621 251
STATEMENT OF CHANGES IN FINANCIAL POSITION										
Operating Activities										
Cash from Operations	**79 713**	61 829	96 066	107 838	83 839	65 124	48 095	41 844	47 251	104 442
Non-Cash Working Capital Increase (Decrease)	**(5 445)**	19 076	15 623	(5 099)	(15 013)	10 384	7 819	(5 562)	1 017	(15 011)
From Operating Activities	**74 268**	80 905	111 689	102 739	68 826	75 508	55 914	36 282	48 268	89 431
Financing Activities										
Proceeds from Long-Term Debt—Net	**484 140**	624 245	330 713	380 014	61 002	198 234	273 963	175 393	109 560	1 961
Retirement of Long-Term Debt—Net	**(179 311)**	(107 704)	(92 772)	(170 671)	(84 091)	(175 542)	(75 383)	(67 266)	(51 425)	(30 717)
Sinking Fund Payment	**(50 350)**	(45 409)	(42 055)	(39 698)	(38 755)	(37 636)	(35 514)	(33 640)	(32 055)	(31 463)
Other	**141 959**	(25 546)	(91 044)	(19 539)	29 868	37 944	2 563	31 782	10 520	56 689
From (To) Financing Activities	**396 438**	445 586	104 842	150 106	(31 976)	23 000	165 629	106 269	36 600	(3 530)
Investing Activities										
Additions to Fixed Assets	**(380 075)**	(311 009)	(237 800)	(202 039)	(122 640)	(152 283)	(128 693)	(103 954)	(99 634)	(132 703)
Other Assets	**(12 300)**	(6 096)	57	12	14	3 320	22	12	965	374
To Investing Activities	**(392 375)**	(317 105)	(237 743)	(202 027)	(122 626)	(148 963)	(128 671)	(103 942)	(98 669)	(132 329)
Increase (Decrease) In Cash	**78 331**	209 386	(21 212)	50 818	(85 776)	(50 455)	92 872	38 609	(13 801)	(46 428)

Where appropriate comparative figures have been reclassified in order to conform to the presentation adopted in 1989.

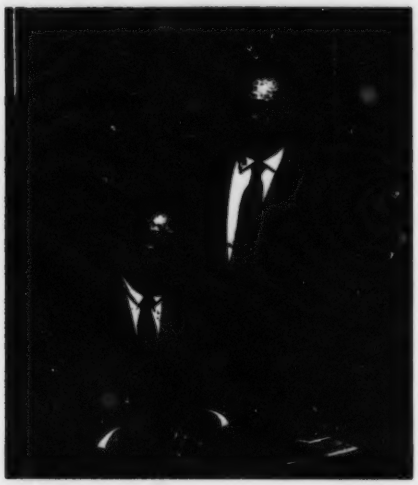
OPERATING STATISTICS

	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
INTEGRATED SYSTEM – MANITOBA HYDRO AND WINNIPEG HYDRO										
Installed Winter Capability (000 kW)	4 048	4 088	4 088	4 091	4 091	4 091	4 091	4 091	4 091	4 091
Manitoba Firm Peak Demand (000 kW)*	3 407	3 356	3 011	2 941	2 952	2 889	2 543	2 735	2 575	2 519
Percentage Change	+1.5	+11.5	+2.4	-0.4	+2.2	+13.6	-7.0	+6.2	+2.2	+4.1
Energy Supplied (000 000 kW.h)										
Manitoba Hydro Generation	15 327	18 148	22 957	22 226	20 261	20 967	20 538	17 372	17 975	19 690
Winnipeg Hydro Generation	774	710	1 108	1 085	1 066	1 042	1 158	813	848	1 111
Energy Purchased										
Hudson Bay Mining & Smelting	0	0	0	0	0	0	0	0	37	27
Ontario	0	0	0	0	0	0	0	0	0	0
Saskatchewan	66	84	115	93	61	64	71	179	14	1
United States	2 264	1 070	0	17	20	7	43	297	201	0
Total Generated and Purchased	18 431	20 012	24 180	23 421	21 408	22 080	21 810	18 661	19 075	20 829
Firm Energy Supplied for Manitoba Integrated System (000 000 kW.h)*	17 108	16 260	15 495	15 366	14 993	14 387	13 260	13 527	12 529	12 797
Isolated Systems Generated and Purchased (000 000 kW.h)	19	20	46	46	47	48	47	46	47	50
Total Integrated & Isolated Systems (000 000 kW.h)	17 127	16 280	15 541	15 412	15 040	14 435	13 307	13 573	12 576	12 847
Percentage Change	+5.2	+4.7	+0.8	+2.5	+4.2	+8.5	-2.0	+7.9	-2.1	+2.5
MANITOBA HYDRO SYSTEM										
Residential	4 785	4 416	4 527	4 535	4 355	4 054	3 788	3 643	3 429	3 499
General Service and Misc.	7 857	7 479	7 133	6 893	6 755	6 414	5 860	6 190	5 694	5 686
Construction Power	86	0	0	0	0	0	0	0	0	0
Net Transfer to Winnipeg Hydro	1 726	1 679	1 273	1 190	1 154	1 143	930	1 245	1 163	977
Extraprovincial										
Ontario	408	1 004	817	917	795	1 153	850	1 089	1 616	1 787
Saskatchewan	114	104	10	222	233	269	231	342	968	1 378
United States	694	2 308	7 004	6 153	4 739	5 409	6 533	3 150	3 299	3 966
Number of Customers										
Residential	321 699	316 622	309 723	302 369	297 250	291 260	285 766	284 286	280 725	278 365
General Service and Misc.	45 959	45 822	45 091	44 350	42 908	42 325	42 076	40 693	40 383	39 844
Peak Number of Employees	4 307	4 222	4 142	3 853	3 805	3 778	3 859	3 850	3 899	4 164

**Corrected by System Losses applicable to Extraprovincial Sales*

Where appropriate comparative figures have been reclassified in order to conform to the presentation adopted in 1989.

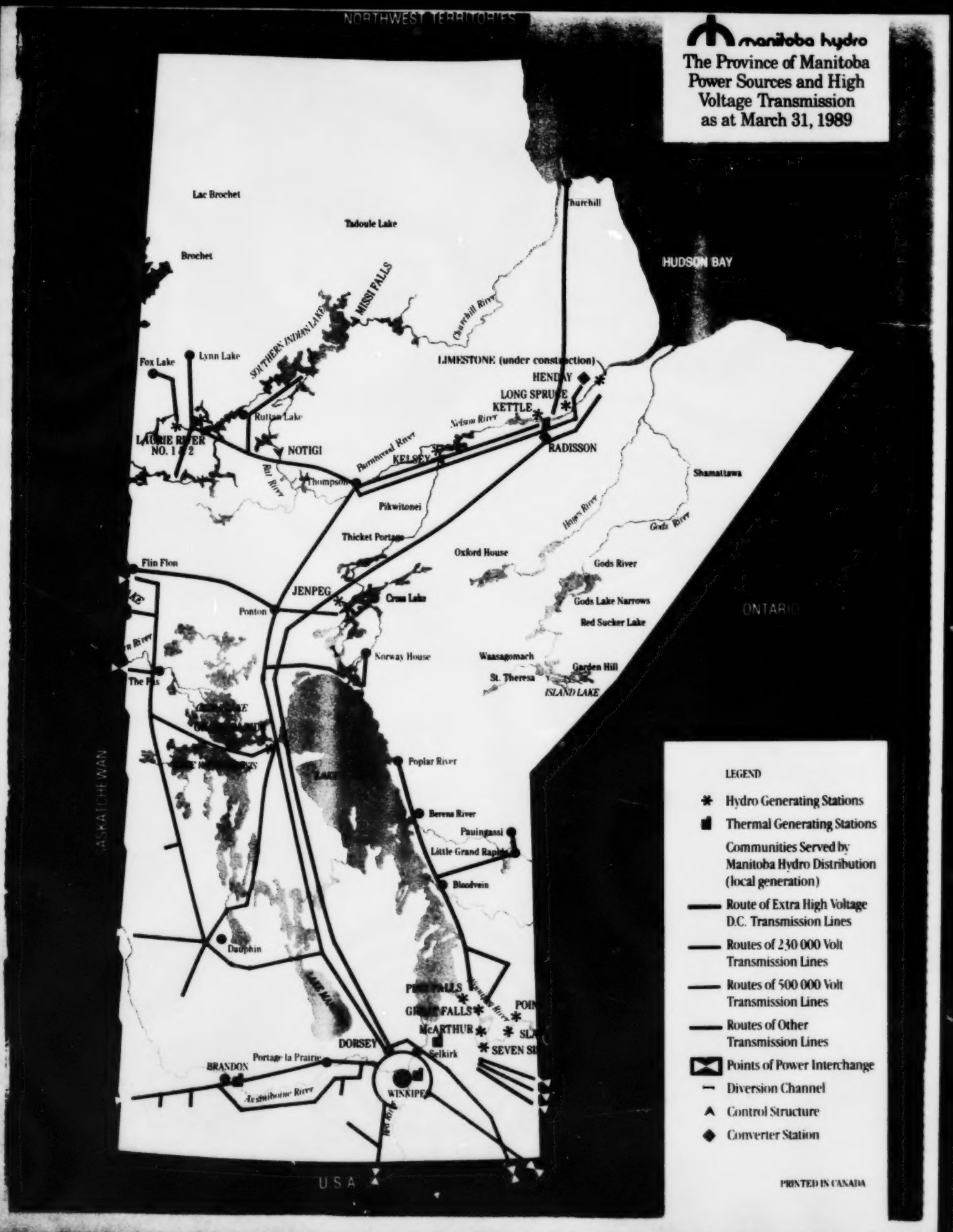
The Executive



From left: G.H. (Garry) Beatty, President and Chief Executive Officer; J.F. (John) Funnell, General Counsel and Corporate Secretary

From left: R.M. (Murray) Fraser, Senior Vice-President, Corporate Development; R.O. (Ralph) Lambert, Senior Vice-President, Energy Supply; R.B. (Bob) Brennan, Senior Vice-President, Finance and Administration

From left: L.M. (Linda) Jolson, Vice-President, Corporate Relations; W. J. (Will) Tishinski, Vice-President, Customer Service and Marketing; D.A. (Don) Kilgour, Vice-President, Engineering and Construction


manitoba hydro
The Province of Manitoba
Power Sources and High
Voltage Transmission
as at March 31, 1989
NORTHWEST TERRITORIES
HUDSON BAY
ONTARIO
SASKATCHEWAN
USA
Lac Brochet
Tadoule Lake
Brochet
Churchill
Churchill River
MISSI FALLS
SOUTHERN INDIAN LAKE
Fox Lake
Lynn Lake
LIMESTONE (under construction)
HENDAY
LONG SPRUCE
KETTLE
Nelson River
Rat River
Burntwood River
KELSEY
RADISSON
NOTIGI
Rutter Lake
LAURIE RIVER
NO. 1 & 2
Thompson
Pikwitonei
Thicket Portage
Shamattawa
Hayes River
Gods River
Oxford House
Gods River
Gods Lake Narrows
Red Sucker Lake
Flin Flon
JENPEG
Cross Lake
Ponton
Norway House
Waasagomach
Garden Hill
St. Theresa
ISLAND LAKE
The Pas
Poplar River
Berens River
Pauingassi
Little Grand Rapids
Bloodvein
Dauphin
PINE FALLS
GRAND RAPIDS
McARTHUR
DORSEY
Selkirk
SEVEN SI
Portage la Prairie
BRANDON
Assiniboine River
WINNIPEG
Red River
LEGEND
Hydro Generating Stations
Thermal Generating Stations
Communities Served by Manitoba Hydro Distribution (local generation)
Route of Extra High Voltage D.C. Transmission Lines
Routes of 230 000 Volt Transmission Lines
Routes of 500 000 Volt Transmission Lines
Routes of Other Transmission Lines
Points of Power Interchange
Diversion Channel
Control Structure
Converter Station
PRINTED IN CANADA